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### RECOLLECTIONS OF THE EMIGRATION SERVICE TO AUSTRALIA IN SAILING SHIPS IN LONG-PAST YEARS.

By R. SCOT SKIRVING,  
Sydney.

WHEN I had served several resident medical officerships in hospitals and done as much post-graduate work in Vienna and Dublin as was then usual, I was still not very old—about twenty-three I think. I had come to the parting of the ways—to a kind of crisis. What was I going to do with my life?

From various causes I was simply restless and unsettled. I hated the idea of being a professional struggle-for-lifer in Edinburgh, and probably largely dependent on my father for some years. And other things as well existed which would have made Edinburgh rather an unloved milieu, and oddly enough I never thought of anywhere else in Great Britain. In truth too I did not wholly love Edinburgh—I carry on now about it—"the dear grey city of the north"; but it really was not likely to be the environment in which I was probably going to be happy and contented. Perhaps I was wrong, but somehow, even now, on my last lap, I do not think I did wrong to turn aside from assured comfort, the almost certainty of a sufficient success, of at least a moderate kind, of living my life in the country of my fathers, because in my bones I felt I would be doing no harm if I took what pigs I possessed to a more attractive market in a new country—a country, let me say, not wholly unknown to me—a country which already had attracted me, and about which I had always said: "If I leave the sea I'd go there and be an Australian colonist."

I think my father was not greatly concerned at the time at what I did, for he thought I would have a fling and

come back, as all those who knew me best assured him I would come back and get on, and my masters Sir T. Grainger Stewart, Argyll Robertson, Sir A. Douglas MacLagan and others were not in favour of my leaving Edinburgh, where I had by then some small *locus standi*.

Well, anyway, I made up my mind I'd go somewhere, and for some time. Time and place indefinite! I did not wish to go as surgeon in a liner of those days, say to Calcutta or Hong-Kong and back, wear a uniform, get £10 a month, and be in a steamer. I wanted to sail in a sailing ship, preferably to Australia or New Zealand—if with emigrants, so much the better, because of the pay. Also, if opportunity smiled on me, I might do what I had said long before if "I swallowed the anchor", namely, settle in Australia. Such jobs in emigrant ships were not to be got just for the asking; it needed influence; and this is how I got the position. Fleeming Jenkin, a family friend and a famous electrical engineer, had business associations in Victoria Street in London, where engineers and agents-general did mostly congregate. Jenkin wrote to one of these engineers, who had offices close to the New South Wales office of its agent-general. "My fame and abilities" were duly boomed per Jenkin's rosy letter of commendation, and handed on to the powers that were, and soon I got notice after an interview that I was appointed surgeon-superintendent of the barque *Palomar*,<sup>1</sup> to sail shortly from Plymouth, where she would embark nearly 400 emigrants.

So the die was cast, and I prepared to say good-bye to the "dear grey city of the north"!

I fancy I felt in my inner consciousness that it was to be my final severance with home. Anyway, I took a sufficient selection of "practical pieces" and medical books, and all my instruments, of which I had acquired quite a

<sup>1</sup> The name of the ship is fictitious; all else in this account is fact, with the exception of any names of persons, which are mostly fictitious.

useful lot. I also took many testimonials, printed and bound, so as to have something to show as to my record and experience if I became a candidate for some post in Australia. I really forget all the throes of my going, but I did "not sorrow as those without hope". I went willingly enough, and I would not let anybody come to the station to see me off.

The ship was, even for those days, not a big vessel, but she had been used to carrying coolies from India to Demerara by her London owners. For this voyage, however, she was chartered to carry emigrants to New South Wales. The emigrants were collected at Plymouth and housed in the Barbican. It made me think of the slaving days on the West Coast of Africa, where droves of Negroes were confined in barracoons awaiting their shipment for the "middle passage".

Our prospective empire-builders did not therefore have the satisfaction of a direct parting from the heart of Britain, from London, and finding their way to sea down that glorious river in which my interest has never flagged—far better to my mind than that other sea entry, the Mersey. I knew them both well. The Mersey is fine, very fine, but it does not last very long, and the bar is soon crossed and the ships were at sea in narrow waters long before the crews had sobered up.

From London the ship hauls out of dock, the tug straightens her up, her bowsprit points down the river, and then begins the unforgettable pageant of the Thames from the "Knuckle" to the Nore, with its hundred interests to those with eyes to see. Then came The Downs, where, as a boy, I could recall that anchorage with perhaps 100 sail waiting for a fair wind. I can conjure up the scene, say, on a dark winter morning, when we knew there were many ships anchored close by. There came a breath of wind with east in it, and before the first sign of daylight from all round came the sound of chain coming in and the flap of loosened canvas. In moments of time almost the whole fleet had vanished round the South Foreland, and daylight showed only tall spires of canvas in the Channel, starting on their diverse solitary ways.

But seamen hated to have to bring up in The Downs by reason of fog or calms or westerly winds. With luck these outward-bounders towed right through, made sail and dropped their tugs when they were fairly in the Channel.

I forget how long the *Palomar* took to get to Plymouth, but it certainly occupied several days, and was not a fine-weather passage. In Plymouth I had to examine every emigrant and satisfy myself that they were in a fit state to embark; also, all those unvaccinated had to be duly dealt with. At last all was ready and we were on the eve of starting when I got a telegram from Sir D. Argyll Robertson asking if I would reconsider the matter and come back to Edinburgh to be his private assistant (he had previously asked me to accept this very tempting offer). Of course I stuck to my negative in my reply, and so another "might have been" went west!

I think a tug gave us a pluck outside the breakwater, but I'm sure she didn't take us far.

Such was our leave-taking from old England. If I had to choose an ideal manner of departure I should like it to be after the fashion of the *Ada's* sailing when Sir Alexander MacCormick brought her out to Sydney, from some quiet haven in Cornwall or Devon, with a boat grating on the shingle, and pushing off from a silent beach in the twilight of an English June—and next the splash of oars, the cheep of blocks and the flap of a sail and then away—where

The chime of country steeples,  
The scents of gorse and musk,  
The drone of sleepy breakers  
Come drifting with the dusk.

The coastwise lights are wheeling  
White sword blades in the sky,  
The dusky hills grow dimmer,  
The last lights blink and die.  
Oh Land of Home and Beauty  
Goodbye! Dear Heart! Goodbye!

That is how I should like to begin a voyage!

I am afraid the *Palomar's* departure was not so pleasant or romantic in its setting forth or its immediate sequel.

At Plymouth the partings of these people must have been already over, perhaps for several days, and so they were not very tearful; but I know they were anxious, worried and sometimes quarrelsome. Yet what tragic good-byes there must have sometimes been, whether the last words were said in the thick air of a city slum or in a quiet English village or in "the lone shieling" of some western island.

I said to the embarkation officer: "I wonder how many of this crowd will ever see their native land again?" "Not 10% of them", he replied. I daresay he was fairly correct.

It was early in 1883, and cold and miserable. No sooner were we outside the breakwater and the Eddystone at any rate astern than a hard sou'-west gale blew up in our teeth. For nine solid days we stood across the Channel shortened down, wore ship, and at the end of that time Start Point was still in sight between the squalls.

How I blessed my luck in these early days that I knew the ways of a ship at sea, and of emigrants, for I had been there before on a former Australian voyage. I was, I allow, a little sea-sick, but not enough to keep me from being very much about among the cargo of human misery. They were wretched, and they needed some kindness and a lot of heartening up.

However, at last an end came to this eternal ratcheting across the Channel, for we got a slant that took us out into the Atlantic and we began to creep to the southward. I think altogether we took forty days to the Line.

Before very long we found somehow that we were going to be short of water, that we had damaged our steering gear and had lost our main top-gallant mast. I forget now what else was amiss, but anyway the skipper and I agreed to go into St. Vincent, in the Cape Verde Islands, to get fixed up. It lies in about 17° north and 25° west.

We thereby broke our charter party. It is so long ago that I am not able to make up my mind now if we were justified in doing so. At least at the time we both believed we were doing right. We spent £300, and the affair was the subject of litigation twice in subsequent years. These early days on board emigrant ships of these times, especially if there was bad weather to start with, as we had, were really shocking trials to these poor devils. Unused to the sea, seasick, homesick, cold, wet fearful and battered down, few aggregations of human wretchedness could be much greater than was to be found during the first few weeks in the close dark 'tween decks of an outward-bound emigrant ship of fifty and more years ago.

However, fine weather in the north-east trades soon put most of them on their legs, and comparative cheerfulness and well-being prevailed.

But not so with one poor girl. She and her husband were particularly nice people, quiet, well-behaved, and good to look at. She was about six months pregnant when she embarked, and never had I seen such sea-sickness as took hold on her, and persisted uninfluenced by the easier motion of the fine weather. She vomited from the Channel to the Pitch of the Cape, when we began to run down our easting. Even the temporary quiet of a few days at the Cape Verde Islands produced little change for the better. I suppose sea-sickness plus an unduly prolonged vomiting of pregnancy led to her unalleviated inimitable sufferings.

At last a time came when, inexperienced as I was, I felt certain that unless some sudden change for the better took place, she would surely die of exhaustion.

After much inward questioning and a study of Playfair's "Midwifery", I determined to bring on labour. She was now in her eighth month, so I passed a bougie. Labour began in due course, and so did a hard westerly gale. I had the patient in the so-called hospital—the half-deck where in other voyages lived the apprentices. Seas came on board, the decks were full of it, and there was often quite a lot of salt water in our precious lying-in chamber. We had, of course, to keep the patient in an upper bunk

to keep her out of the wet. Labour progressed piteously slowly, and I felt that if I waited till Nature completed it, her feeble vitality would surely flicker out. So I made up my mind to deliver her with high forceps.

Picture the scene—a dark deck cabin with plenty of water about and plenty more spurting in through the chinks at and about the weatherboard of the door. A couple of dim lanterns swung from hooks, and the gloomy interior was resonant with the ceaseless thunder of the gale and the creaking of the straining ship.

#### Outside—

Thro' scudding drifts  
The rainy Hyades vex't the dim sea.

I removed the lee-boards of the patient's bunk, but how was I to get purchase to deliver her while I was standing up and struggling to balance myself to the roll and pitch of the vessel? However, I managed somehow, and got a good steady strain on the forceps. There were worried and uneasy moments. A well-meaning, ample-bodied, ignorant young woman (it would not be wholly incorrect to call her an experienced virgin), who said she "was a bit of a nurse", and who told me in a hoarse aside as I pulled, that "she knew a thing or two, as she 'ad 'ad herself a love-child larst year", assisted me, not inefficiently, while another dame, also of experience in such matters, gave an occasional whiff of chloroform. I finished the labour instrumentally. The child, a little mite of a girl, was taken below to the married quarters, where there were several women with babies at the breast, and mothered by one of them. She lived, and is alive, and the mother of children of her own today.

My poor little fragile patient was in a sad state of collapse, but what could one do under such circumstances? All hands and the cook, especially the cook, did their best, and the long night wore away.

The vomiting ceased and she retained what "invalid comforts" our stores afforded—and I landed them both alive in Sydney 126 days after leaving Plymouth.

Some years ago I had the pleasure of getting a letter from the mother; she had seen my name "as present at a funeral" and concluded I was still alive. She and her husband were both well and had prospered moderately, and the child, born in such hard circumstances, had in due season given my patient "two grandchildren", which, she said, "were the joy of her life".

I may as well tell you here that the pay in this kind of medical service to the surgeon-superintendent was ten shillings a head for every emigrant landed alive. I think there were three deaths and three births, so I was just square on the whole.

Of the deaths, one was that of a poor soul with nine children and a helpless kind of husband, a small Suffolk farmer; she died of "heart failure". Whatever would the husband do without his capable wife? She died at sundown, and I agreed to let the body lie for the night in my cabin, which was a fine big room with the rudder trunk running through it. Poor old chap! I was very sorry for him.

Another death was that of a neurotic, homesick young man. I think he just slipped overboard intentionally and was drowned. No one saw him go, but we found the lazy sheet of the mainsail out of its becket and towing overboard, so we thought he had made a finish that way. I forget about the third death, as I forget about the other two births.

The company by which the ship was chartered gave me £12 for looking after the crew. We had a strong crew—at least one-third were extra, shilling a month men—a custom on emigrant ships. I shall now tell you about the officers. There were no apprentices, for their half-deck was required as a hospital.

The captain, a nice man, was a gentleman, the son, I think, of a British consul. He had had a chequered career and had at one time amassed a considerable amount of money, for those days and at sea, on the China coast, commanding and owning partially or wholly a small steamer. Anyway, he had some matrimonial mischances

and, I believe, actually, in a rage at a white lady, married a China lady of sorts whom he bought. That affair was severed later by divorce, he said, and later he then married the governess to what children he already had. The matter seemed intricate, and I did not feel equal to unravelling its mazes, even if I cared, which I did not. He was a good sailor and a most competent navigator, and I even spurred him on to tackle a few lunars for the fun of the thing, just as I did years later on the *Moravian*, going to the South African War, when I enticed two of the officers to join me in a few of these obsolete but admirable exercises.

His health was not very good. When we reached Sydney there was a great to-do over our having gone into St. Vincent. He was sacked by his owners and landed on the beach, with hardly any money, and the governess-wife and some children in England with nothing coming in. I felt that I had had a nearly equal share in the decision to go into Porto Grande—and also I liked him. I landed with £20 or so, but I got at least £186 for my services, so I had rather over £200 to my credit. I lent him £100, with no great expectation of repayment, and I had to increase the amount to nearly £150 a little later, to help him to bring his family out to Sydney. He sought employment. We lodged together for a week or so in a deplorable little boarding house in Dowling Street, Moore Park, near Oxford Street, kept by a loathsome retired bosun. It was just the same sort of smelly caravanserai kept also by a retired bosun in the East Indies Dock Road, where apprentices boarded while their ships were finishing their loading in the S.W. docks. I remember as a fairly small boy living there with a shipmate.

The captain of the *Palomar* determined to leave the sea; he couldn't get a command out of Sydney, so he tried being a commercial traveller. I forget what vicissitudes of fortune and trials he endured, but he ultimately settled in a coast town in New South Wales. He did get his family out in one of the Aberdeen White Star sailing ships, quite cheaply. I met them on their arrival. I thought the lady a bustling personality, but not a weakling. I lost sight of them in a year or two, but I think he made a small income by store-keeping.

One day years later a good-looking girl, about twenty-two, came into my rooms in Elizabeth Street and said she was "The Captain's" daughter and a musician—she rather looked it. Her mission to me, however, was not music, but money. She said that "as I was an old friend and shipmate of her 'Pa', doubtless I would assist her, say for £10". I explained to her that her "Pa", poor man, owed me just about £150, and when I "lent" it to him it represented certainly more than half of my whole possessions. So I refused, and, to her credit, she quite admitted that I had no call to do anything. She was ignorant of her father's debt to me. I am sure her parents died years ago. She may survive, but if so she must be well on in life now.

My captain's last ship had been built about the year I was born, at Sunderland. She was one of Green's teak-built Blackwall frigates, but sold to other owners. She had been in the coolie trade, but was getting worn out, so was sold by them. He brought several of his officers with him to the *Palomar*, namely, the second, third and fourth mates. The chief mate was a rather elderly, sloppy, incompetent old swine, with an unpleasant mind. His navigation was deplorable, and he was just a weak, disloyal, lecherous, lop-eared leper, and we damned him in heaps.

The second mate was a fine fellow in his twenties, a nephew of one of the owners. He was a manly, wholesome, competent seaman. I liked and respected him. I fear his life was short, for, as far as I know, he sailed again in the *Palomar* on her next voyage and she "went missing".

The third mate was also a fine, simple, good sailor. I remember the first night out from Plymouth, cold, snowy and blowing, when he came into the dispensary, where he found me making up medicines for some of those poor wretches in the 'tween decks. "Doc", said he, "you seem fairly at home in spite of this blasted weather. What about a brew of cocoa? Can do?" Glorious! We



had it. He left the ship in Sydney, and I forget what he did, but I know I saw him again somewhere.

The fourth mate was quite young, but very smart. He also left the ship in Sydney—got in tow with "a piece"—flighty, I suppose, but awfully bucked by this lad officially marrying her. She was therefore most creditably anxious to deliver the goods and live for domesticity. He became a laundryman, got a business together, and then developed a strange ulceration of the nares, of the nature of which to this day I am not quite clear. It was long before the days of spirochetes or Wassermann reactions. However, at the expense of some not very agreeable treatment, and some loss of substance about the nose, he recovered. As time passed I lost sight of this couple, and I forget his name.

I must not, however, forget the cabin steward—a queer type of Englishman. He came of a good family; his people were squires in Wiltshire, I think. He had been at Winchester, but I fear was not marked in youth for doing well. He first came out to New South Wales in the dear old *Parramatta* (quite a while prior to 1883), a glorious old teak-built ship, and he had a remittance while getting colonial experience. I'm afraid a good deal of the kind of experience he got was around the bars of Sydney, with a pretty fast crowd as his "cobbers". Then funds fell off. He had to work, and he did learn the ways of the bush; but in a few years he had a wander fit and determined to see the world cheaply, so he shipped in various capacities, mostly, I fancy, as a steward, in various ships to various places. Then he found it time to return to Australia, and signed on as cabin steward in the *Palomar*. He went back to the bush, travelled for country storekeepers, then became book-keeper on various stations (he kept accounts admirably). Next he went to Kimberley gold diggings in Western Australia, got malaria and other things, returned to New South Wales as book-keeper at a station I knew well, and took a selection. I saw him often in these days. Then he went to north Queensland, took a selection and, of course, like many others in this tragic district, he went broke. He borrowed some money from me, which he has never tried to repay; but it was worth while, for it kept him away, for both here and, in England, later, he was the two ends and the bight of a consistent sponger. Finally he got a steady job as a book-keeper, but what he did in his old age, *das weiss kein Mensch*. He actually had the temerity to commit matrimony when nearly seventy! I think he died not long ago, well on in his eighties, but I know nothing positive about him. His was a mixed character, with both bad and good. He had rather poor health and very bad eyesight, but he was quite brave in various difficult situations—I know.

that we did, and what we looked at had also settled on their retine. I shall look up and see whether these two actually were there.<sup>1</sup>

If St. Vincent was a mass of sand and cinders, the next island, San Antonio, was far otherwise. It was a vision of green, and now, this very afternoon, while I write these words, I can shut my eyes and see the picture of the ship getting sail put on her and pointing down the channel between St. Vincent and San Antonio, on an incredibly blue sparkling sea pathway, six miles or so in width, and our ship leaving a bright tumbling wake. Ah me! I'm thankful to be able to re-create that "vision splendid".

I really found myself very happy again at sea in sail—far more so than if I had just gone the usual weariful voyage in a liner with grumbling passengers and cliques and snobdom. Apart from the joy and interest of masts and sails—"sticks and strings"—one really felt that one was doing something, with the intense personal responsibility of these poor people, mostly very ignorant, and often not a little quarrelsome. It was human nature in the rough at close quarters.

I may say at once that they got good plain sea food, and as much non-sea food as the conditions of a small sailing ship with around 400 people on board made possible. With most of them I doubt if they ever had better tucker, all round, in their lives than what was served out to them. It was roughly served no doubt, but taking it by and large, their feeding was miles better than what the ordinary merchant seamen of those days got—which was just their "pound and pint".

But when we came to the accommodation, then I must admit that it was horrid, and even indecent for decent married people to be herded together like beasts, with almost no privacy to dress or undress, and where, in the close stuffy double bunks they slept in, only a thin board separated each couple from another alongside, another below, and another lot end to end. The ventilation was very poor, and in the tropics, with a temperature of 90°, the air was mephitic. Figure I shows plenty of round side ports, but they were not used, for at sea, if open, they would admit water whenever she rolled, which was often. I think, but am not sure, that they were indeed permanently sealed up. Consequently all the ventilation in the 'tween decks was from the few openings on the upper deck with ward sails led through the hatches. The single men were shut off forward by themselves and the berthing was good enough for them. The same may be said of the single women's quarters, which were in the 'tween decks right aft, totally shut off from the married quarters, and with a separate hatchway leading up through the saloon to the poop. The single women were never allowed forward of the poop.

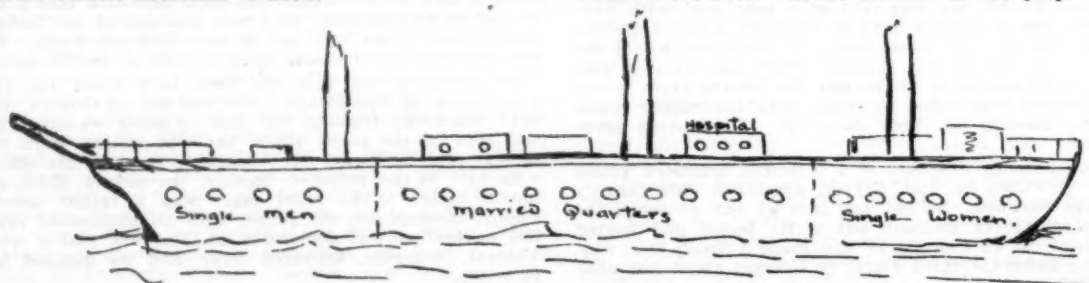


FIGURE I.

These young mates were bricks during the first ten days of misery, cold and hard gales. They helped me no end, and if you did your duty to these poor, ignorant, homesick people you certainly had a lot to look after.

The visit to St. Vincent was interesting to me. It was just a cable and coaling station with nice officials, and I think a pleasant ship-chandler, who doubtless got some profit from our visit—we must have paid dearly for water. The settlement was just a bare, barren, sun-baked little town; but I liked to imagine, perhaps correctly, that Dampier and Cook had lain at the same anchorage

I hope that the rough scrawls shown in Figures III and IV will make it clear that these married couples slept in bunches of 16 human beings in two tiers. I think the very young children slept with their parents and the older children piled in together somehow in other double bunks.

Of course the mattresses were just "donkey's breakfasts", as were all sailors' bed gear. I don't think the emigrants

<sup>1</sup>I cannot satisfy myself that Dampier was in St. Vincent, although I know he was elsewhere in these islands; but James Cook certainly was. Also in our own time E. F. Knight came in the *Alerte* and perhaps in the *Falcon* as well.



had sheets, probably only blankets. I think sheets would have been out of place, and they could not have been washed.

It would not be pretty, and I would feel uncomfortable if I were to enter into all the adventures, embarrassments and awkward moments of a domestic day and night spent in such conditions of communal crowding, which, in happier conditions, are rightly separate, personal or familial.

I had many difficult moments in smoothing the horrid impasses which happened. Mostly were the complainants women, and my sympathies were with them. Some were naturally refined and sensitive; some were, well, just coarse beasts; and the clash between the types was deplorable. If ever I had to exercise tact and under-

seemed the right thing to remove the prolapsed iris, "Saemisch's operation" I fancy it is called. Anyway I had quite a good set of eye instruments with me (I have them still—Argyll Robertson's parting gift to me). I gave chloroform—no cocaine in those days—and slightly dividing the floor of the ulcer, I picked up the iris and removed all the prolapsed part. The eye did awfully well, and long after I heard from a doctor in the country in New South Wales that he had come across the patient and had learned all about the operation.

Once again in my life have I done a full proper iridectomy in Sydney for acute glaucoma. I had an old Irish woman who was quite a devoted, believing patient of mine. She consulted me for pains in the eye, a ring of light and the tension "+++". I implored her to get Odillo

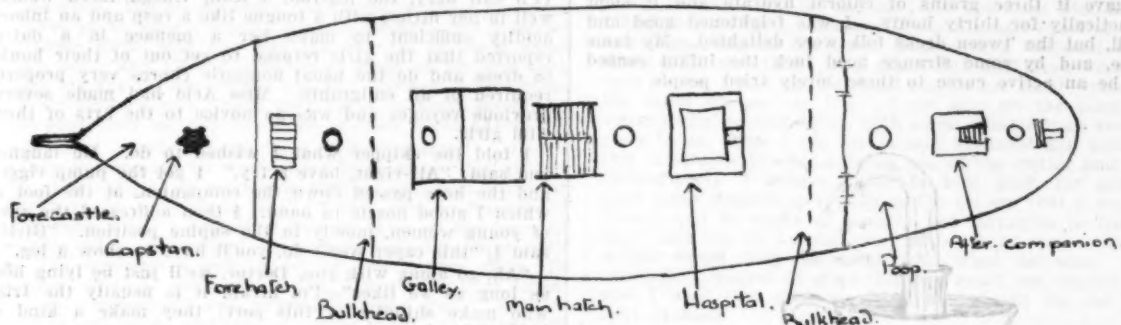


FIGURE II.

standing it was when growling men, and justly angry women, came to me for the settlement of disgusting causes of strife—and I was not twenty-four. Ah well!

On certain days baggage was got up on deck. It was a fearsome experience, especially so if it came on to rain or blow, with all these people's possessions spread out anyhow. Another sacramental occasion was blanket day, with fluff and fug and dust blowing about everywhere.

I am sorry to have to admit that lice and bugs were a veritable plague.

It was useless for angry viragoes, with arms akimbo, to shout taunts of lousiness to their nextdoor bed-mates. Ah no! For all shared the attention of parasites of the best-known brands.

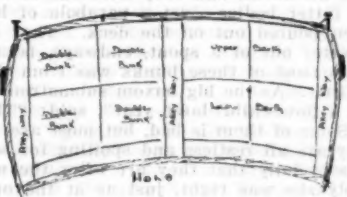


FIGURE III.

I solemnly declare that when the sweeping of the 'tween decks took place, I have looked into the line of dust and seen mobs of our little guests crawling about. I encouraged the men to have their hair cut very close; but with the women the days of bobbed hair had not yet arrived, and I fear that "glory of womanhood", long locks, made fine coverts for these little brothers of the poor and dirty.

We had no epidemic of any kind, but if one case of typhus had occurred, what an outfly of that evil disease might have followed with all these body lice about to spread the glad tidings.

I can only call to mind doing one set operation, namely, an iridectomy of a sort of all things! I did it on the cuddy table, and the ship had much motion at the time. It happened this way. An adult was not in very good health and developed a corneal ulcer which perforated, and the iris came through the hole. I blessed what I had learned from Argyll Robertson and old Mr. Walker. It

Maher to see her and operate: "No, by cripes, it's you, or nobody will touch me!" Well, I did iridectomy. How I hated doing it, for here, even then in Sydney, it was dreadful to touch such a case, when there were three certainly competent oculists to be had. I am truly thankful to say that all went well, and it was what might be called a successful operation. But never again.

It may amuse any light-minded readers of this paper to hear that the captain and I conducted services alternately. We had to give little addresses. I had Kingsley's "Good News of God" and some of my uncle Saphir's sermons, and the old man had another book of uninteresting, non-committal, pious thoughts. We took these books and pruned them of clerical flourishes and delivered them more

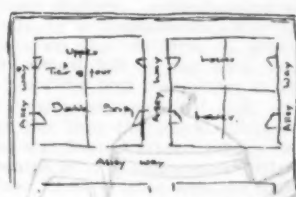


FIGURE IV.

or less extemporarily. Our sermons and services were held on the upper deck and only in good weather. Anyway I don't think they did the emigrants any harm.

Here is another matter of a more worldly character in which some ingenuity and adaptability were required. Our candles and illuminants ran short. No candles remained, and very little oil. I remembered how some of "the puir folk" in Islay made candles, using the dry cellular strands of thick rushes as wicks. So I got a couple of craftsmen to make candle moulds from old tins, and we plaited yarns of cotton into a fine sennet for wicks, and used slush (that is salt fat) as the main basis of our candle making. But it did not set hard, and we did not know what to put in the brew to make it do so. Wax we had in small amount, and it was soon used up. I forget all the things we tried, but we never got these candles of ours to stand long. They burned a while and then bent, and in many instances we just had to fall

back on the old slush lamp of my earlier years. In Figures V and VI I try to show graphically the result of our endeavours as illuminators.

In the married quarters there existed a poor miserable baby who kept the whole crowd awake at night by its unappeasable yelling. Who knows? It may have had a badly shut safety pin in its midship cerements. Anyway the nuisance it made of itself was very great. One afternoon a deputation of matrons came aft to see me, severe and portentous and very much in earnest. "Did I know that there h'infant what screamed the 'ole blessed night?" "I did indeed, very much so." "Well, wot abaht it?" I shuffled uneasily, for it is not always quite simple to quiet a crying child. "Carn't yer give it summut to give us a charnast to sleep?" I said I would do my best. I gave it three grains of chloral hydrate and it slept practically for thirty hours. I was frightened good and well, but the 'tween decks folk were delighted. My fame rose, and by some strange good luck the infant ceased to be an active curse to these sorely tried people.



FIGURE V.

The issuing room in these ships was the storeroom from which the provisions were served out, and was built more or less over the hatch between the 'tween decks and the hold, right in the middle of the married quarters. Not a good plan, but unavoidable in a small vessel.

One day of heavy rolling caused a cask of molasses to go adrift, and it took charge, and in the end it got started, and behold a horrible flood of thick dark fluid



FIGURE VI.

poured out beneath the wooden walls of the store-room. It flowed, of course, in and out about the married quarters. Great excitement prevailed. Buckets, empty tins, mugs and squeegees were all used to save some of the "cockles' joy" and mop up the rest. But quite a lot remained on the sticky deck, requiring other more meticulous treatment. I had an imish brainwave. Many wide-eyed children stood around, desolated with the thought of so

much saccharine happiness being wasted on the irresponsible planks and waterways. I rose to the occasion: "Let the children deal with the mess as Nature prompts." No sooner said than done, and all hands under fourteen were down on their knees in a trice, licking for their lives. It was a quaint and gladsome scene. How I laughed! But there were many sticky clothes on these children before they gave up behaving a little like the late Nebuchadnezzar.

I have certainly once, if not twice, read in articles about the life in Australian or New Zealand emigrant ships, of some tough old skipper quelling a mutiny among the single women by the use or threat of turning the hose on the refractory girls. I had myself some such experience in a small way. One morning Miss Acid (I'll call her), the matron, a lean, vinegar-faced woman well in her fifties, with a tongue like a rasp and an inborn acidity sufficient to make her a menace in a dairy, reported that the girls refused to get out of their bunks to dress and do the usual domestic chores very properly required of all emigrants. Miss Acid had made several previous voyages and was no novice to the arts of these wild girls.

I told the skipper what I wished to do. He laughed and said: "All right, have a try." I got the pump rigged and the hose passed down the companion, at the foot of which I stood nozzle in hand. I then addressed the rows of young women, mostly in the supine position. "Girls", said I, "this caper won't do, you'll have to show a leg."

"Ah, go along with you, Doctor, we'll just be lying hère as long as we likes"—I'm afraid it is usually the Irish who make shindies of this sort; they make a kind of hobby of raising Cain.

"Ah no", said I, with my best bedside manner. "Young ladies, there is no attraction in bed for you on a fine morning like this, so out you'll get like the perfect dears ye are."

"Ah, to hell wid your flattery! There is nothing on this boat but worrk and that old cat's tongue fur us when we do bees get out of thim harrd beds. Annyways we're stoppin' in them till we're rested."

After a few more interchanges of shot I said: "Well, girls, I don't want to make your beds wet and damp your pleasant faces, but I swear by the great hook-pot that if you are not out by the time I count 20 I'll turn this very hose on you." I squirted a little to show that it was in order.

There was a pause as I counted, and then a sudden upheaval took place all about, and they shot out of their beds—fat legs and fatter bodies—just a parabola of half-naked young women poured out on the deck. They had to come out like water out of a spout, endways, because the only egress from most of these bunks was from their ends. So that was that. As the big buxom submatron, the one who had "had a 'love-child' larst year", said: "Them girls is all right. Some of them is bad, but most are real good girls; but they are all restless and spoiling for some deviltry; but it's ispecially that they are after the men, they are." Probably she was right, just as at the other end of the ship the single men were always trying to get speech with these segregated young women. I wonder how certain learned but not very wise medical men would have dealt with such a Gilbertian situation.

On Sunday afternoons those of the girls who had bonafide relatives among the single men were allowed to see them; but two of the mates stood guard on each side of the poop ladders to investigate their claims.

Visitor: "Mr. Officer, can I see Miss Bridget O'Neill?"

Officer: "What's your name?"

Visitor: "Tim Connor."

Officer: "What relation are you—brother, cousin or what?"

Visitor: "Not a brother, but next door to that, Sorr."

Officer: "And what might that be?"

Visitor: "Just a dear friend."

And so on, one after the other, with all manner of quaint excuses. We generally let them come up on the

poop if they were decent lads, for a little flirting was good for both, and gave these poor segregated devils something to look forward to. Then there were all the excitements of trying to communicate with these girls—wrapping love letters round any small piece of metal and dropping them into the big kids containing the soup or meat on its way aft from the galley. Someone of course found them, and if the finder was a "sport" it often got to the right girl—I hope it did anyway.

Some of these girls were fine, well-behaved creatures, and good luck to them. Probably they did well in life. I should think most of them got husbands; but some of these husbands were to be pitied, for, alas, a fair percentage were odious, quarrelsome beasts and no good. There were about 90 of them in all, so some were sure to be duds. But on the other hand some of these husbands needed to be good chaps to deserve perhaps the majority of these girls, who had had the courage to come away from home and all the accustomed props of life and seek their fortune in this distant colony. Anyway, I give them all my blessing and I hope they found as much happiness and prosperity as they hoped for in their great adventure.

I forget nearly all of these "Jimmygrants". One, a steady Scotchman, we made the schoolmaster. He did his job excellently. He settled in Sydney and was a timber merchant in a moderate way. I saw him professionally long years ago. I remember two or three of the married couples who also settled in Sydney and did quite well. At the moment I only know of two people alive, in Sydney, of these emigrants. One, I fear, drank at times, but got "converted" and ultimately made good. Another used to call on me and send me pious cards and letters full of extravagant expressions of holiness. He forgets to give me his address, but I am touched by his kindly remembrance of me. I think the single men we had were a particularly fine lot, far higher in type than those we had on an Australian voyage when I was an apprentice. But I must tell about one extraordinary fellow, a married man, who was a true example of a violent agitator and demagogue. His name I shall not mention. I suppose he was of Irish birth, but he had lived most of his life in the East End of London and spoke like a Cockney. He was a butcher, with a draggled, deplorable wife and several anxious, troubled children. He did nothing but cause rows, fought with everybody, complained of everything, was consistently impudent and insubordinate. He would harangue anybody he could get to listen to his profuse flow of infuriated talk. How he missed becoming a Communist Labour agitator and possibly therefrom a member of parliament of sorts I simply don't know. Either he was too advanced for the moderate Labour men of the time or he had failed in time and place to find a proper sphere for his vitriolic tongue. Well, he upset the whole ship and it was becoming quite a difficult problem as to how to clew him up. He advanced rapidly along the evil road of insolence, insubordination and ultimately violence. He mistook patience and forbearance for weakness. He was much of the breed of Donkin in Conrad's "Nigger of the Narcissus", but perhaps not so viciously criminal or cunning. Perhaps he was really mentally unsound. Finally, after acutely irritating scenes in the married quarters, he hit his wife, and there was a lively general row. I was sent for by the constables. I remonstrated with him and pointed out the folly and wickedness of his shocking behaviour. He was beside himself and screamed: "I'm a man, I ham, and I won't be monopolized over by you or henny hother b——." He followed up this verbal attack with an effort to knife me, and that filled up his cup to overflowing and gave me the opportunity I wanted. I and, I think, the fourth mate, who was storekeeper, went for him, knocked his knife out of his hand, handcuffed him, and dragged him off, screaming and fighting like the wild beast he was. It was a nuisance, for we had no proper cell in which to put him. However, we locked him in one of the state-rooms opening off the saloon, where we had our meals, and left him to kick his heels. He spent hours at first kicking the bulkheads and yelling obscenity and abuse. Then he got tired and slept, but he always, for quite a

time, woke up to shout impudence at us while we fed. But as the days passed he settled down and behaved rather better. We locked him up soon after we rounded the Cape, and he remained a prisoner till we reached Sydney, and a proper nuisance he was. Consider his feeding, his exercise and the calls of nature. Regarding the last mentioned, he thought he had us on toast, for he used the cabin indiscriminately. But we cured him of that, the three younger mates and I, by a method which will readily suggest itself to the candid reader of this artless narrative. One or two treatments sufficed. They were horrid, violent and disgusting, but they were necessary and successful. Also he ceased his obscene noises and vile talk; but oh, the worry of this wretched useless creature! A few days of close confinement seemed likely to make him ill, and as I did not want him to die, I had to give him, somehow, fresh air and exercise. He was tamer, but no one could trust such a half-mad beast. What I did was this. After night fell, and there were few eyes to see, I had one handcuff put on his right wrist and the other one on my left. I got him on the poop and walked him up and down, with some reliable man keeping close to us. How I did try to talk kindness and sense to this miserable crooked-natured son of the gutter and evil-mindedness. I believe I did do him good, for after a good many days he gradually got to believe that I was his friend, and he spoke of poverty and struggles to live, of East End life in London, and all sorts of serious things which would help to make him what he was. But although I relaxed in most things, I could not release him and I kept him shut up and isolated till we got into Port Jackson.

Well, what did we do then? He had been logged for mutiny, violence and assault, with intent to do bodily harm. He certainly would have got a pretty stiff sentence. One of the immigration officials and Canon Stephen, a dear man, got in touch with a fine kindly priest. (This poor wretch was by way of being a kind of Roman Catholic.) He came on board and talked to the man, who admitted "his sinful behaviour", and then he interviewed the captain and me. He pointed out the misery a conviction would entail on the prisoner's wretched wife and children, and ruin his chances in a new country. Would we just forgive and refuse to prosecute? We did, and the rascal landed a free man, with no docket of damnation on his beastly greasy bald head. He went, I think, to a south-coast town, and, as he apparently didn't get into any blood-stained row, I suppose he just earned a living cutting up animals, not young doctors. A good many years later, one day I went there to a consultation, and there was my former ship-mate on the platform to greet me—how, I don't know. He almost fell on my neck, and told anybody about that I was "the best b—— man in the 'ole b—— place".

Finally his wife fell sick, of some internal tumour. I got her into the Royal Prince Alfred Hospital and there she was looked after. I have never heard what ultimately became of this outrageous little firebrand or his deplorable wife. If he is alive now, he must be over ninety years.

I have already mentioned several other of these ship-mates of mine, but I must now recur to one of them, as it is germane to the trouble already mentioned. I suppose not very many of them can be alive today. I have mentioned one who indeed comes to see me. I ran him to earth lately through the electoral rolls. He is "saved" now. It is well, for in earlier years he needed to be so very badly. I got the following letter from him not long ago. It interested me from its reference to this fighting fellow. I fear I never lent him my pipe, but I hope I gave the little wretch one. Here is the quaint letter which I got some years ago from my pious passenger.

Dear Dr. Scot Skirving,

Thanks for your kind cheering letter, its good to know that the busy man has time for others. If you look back from yesterday 53 years ago when we left Old John, the man with the white apron on who said "less of your 'ere-ere'" in the Plymouth Depot. I cannot quite fit you in there unless you did the vaccination. I remember you best when you lent the prisoner XY your pipe and overcoat.



You were a good Scout doing your good action each day, or giving the sailors a hand with the mainsail, or coming down amongst us, taking our two babies, one on each knee, and telling us yarns—good oh! May our Loving God and Father of our Lord Jesus Christ guard and guide and keep you in His Holy Keeping till He come.

With Christian regards,

(Signed) .....

Landed safely from the *Palomar* with your help.

But this inflamer of his fellows, XY, was not the only man on this passage whom I saw draw a knife with intent to wound.

We had a disgusting chap with a fat, flabby face and pimples to match, a real "Jack-Nasty face", an assistant cook, who tried the same kind of insolent insubordinate ways to all and sundry. I am sure he was a trial to his immediate boss. He gave no end of sauce to the messmen when they came for their kids, and finally he fell out with the very "toffy" cabin steward, who knew the domestic economy of ships from Dan to Beersheba. There was an unseemly interchange between them of unoriginal curses. I happened to be standing one day close to the lee galley door, where this beauty stood dispensing distressing looking masses of salt meat. The war with the steward waxed hot and came to blows, and then I saw it was time to interfere, for the cook had a big knife in his belt and he drew it.

I also drew something, but it was not a knife, but a six-pound lump of beef with jagged rib ends sticking out. So I let Mr. Blasted-Assistant-Cook have it good and strong on his face. It hit admirably, I'm sure more by chance than skill, for I throw a ball as badly as a girl, and I hate cricket. Well! It made an awful gash on his right cheek just across his malar bone. It staggered him and he bled like a pig. The steward then finished him; he hadn't a kick left. I sewed up my own cut. The affair did him a lot of good, for he was tame enough later. A beast, he deserved all he got.

Another and more serious affair was the behaviour of a section of the crew. As with all emigrant ships, as I think I said, the Board of Trade made the *Palomar* carry at least one-third extra able seamen—at one shilling a month I suppose. These extra would be discharged in Sydney and therefore had no wages coming to them. They simply worked their passage out and didn't care a hoot. I'm sorry to say the most troublesome of these freelances was a good-looking young scamp just out of his time, and a great ogler and dog whenever he was doing anything about the poop.

Well, these fellows worked up a grievance—I forget what it was—grumbled, slacked, wouldn't sing shanties, were moderately insubordinate and laughed at the elderly, sloppy, weak-kneed chief mate. They didn't try any games on the three junior mates—not much. They finally refused duty. It was so hard to know what to do with them, for there was no place in which to lock them up. However, the sail locker was cleaned out and six or seven of them were put into it and secured. They were logged and given short commons. They had sympathizers no doubt, but, as a matter of fact, if twenty men forward had refused duty the ship could have been sailed aft; there was the skipper and four mates (the chief was almost negligible in a kick-up of this sort), the steward was full to the teeth of flight and had had some sea experience, I myself was quite hefty, and I suppose competent to steer and work aloft in handling sail. Among the single men there were three or four of sea experience, and of the main skeleton crew there were at least half a dozen or more prime seamen who had no intention of joining in a mix-up of this foolish sort. One of them I remember well. How I'd like to have known his story. Tall, muscular, deeply tanned, educated, reserved and a prime seaman, he probably knew navigation; but I think he was a sailor of an earlier age. Heaven knows what strange happenings he had seen. His shipmates said he had been "a pirate". Who knows? But he certainly was better, that is, of a higher rank than he seemed. I liked him a great deal, and many a quiet yarn I had with him, but he never

said who or what he was. I bet some nice English home had mourned the disappearance of some wild boy thirty or more years earlier. He also left the ship in Sydney and got a job for a time on the Manly wharf.

I may tell you that the "mutiny" flizzed out in a few days. The restricted joys of the sail-room, little to eat, and their own company cooled the men's noble rage. We let them out, but they were punished all right when we got into port.

Life, sometimes sordid, even tragic, ran quite colourfully on that ship. I was profoundly interested in everything. I repeat that I honestly and truly tried to do my duty by these people. I wasn't very old, but nevertheless I looked upon them as my children. If they required chastening sometimes, they nearly always needed humouring. I liked the skipper, he was quite an interesting man, but not bookish. The three younger mates were fine fellows. I renewed my acquaintance with navigation; I even worried the old man to try a "lunar" or two. And I got the young mates to take stars, and I once more found myself aloft. I didn't often go in the daytime, I think because I had some silly idea the emigrants might think it was *infra dig.* for the doctor to do so. But at night I used to get aloft and sit in the main topmast crossrees and devour the loveliness of everything, and gloat over the carven stillness of the main upper topsail full of wind and asleep at my feet. I looked down from this detached and silent place and saw the slim ship beneath, a thing of real beauty, as

She shears the warm fire winking sea,  
While the wine-dark rollers float her,  
Ghost pale, ghost pale, in the moonlight, she  
With a belt of flame about her.

I laugh when I think of the surprise three or four of the crew got one night when a squall made us take in our top-gallant sails, when I appeared out of the rigging and laid out on the yard among them. "What are ye given us, doctor; for — sake hold on!" I laughed and said: "It's all right, I've often been here before", and I fluted the tempestuous petticoat of a sail *con amore*.

The food in the cabin was excellent, and the allowance of ale and wine ridiculously ample. I hardly ever touched it, but other people did, so I did not let it be returned to store at the end of the passage. Miss Acid, the matron, loved stout, but it neither fattened nor sweetened her. The skipper, being an old West Indian trader, made wonderful gin slings and frothed them with a swizzle-stick—an early style of cocktail—mighty enticing. I really liked drinking them.

I don't remember anything much of importance running down our easting, except being hove to under a lower main topsail for two days. We made excellent weather, and being in fine sailing trim with passengers, the ship was most sea-kindly. The only naughty thing she did was losing a boat. We kept a sea-boat swung out from davits on her quarter. She rolled heavily and a sea swept up, filled the boat to the gunwale, and as she lifted again, the boat, full of water, just broke in two. I actually was looking when it happened. It was a queer sight to see the two ends hanging down. Some distance to windward at the time was a large ship also hove to. I couldn't keep my eyes off her antics—her disappearing and emerging as she rose and fell on those enormous seas driven by the westerlies, with the whole round world for their "fetch". No doubt I'd sometimes seen the same sight before, but somehow the picture of that ship remained with me.

I do not remember whether we came through Bass Straits or round Tasmania, but we made the land of New South Wales somewhere about Illawarra. There was little wind. It was June, and cold, and there were, oddly, I think, many bush fires. The coast sparkled with points of light. Just the same kind of aspect which had filled my eyes the last time I had looked on Australian land. It was in Backstairs Passage and the mainland of South Australia. Then we thought we had got a slant and would go through. We had even got our anchors on the fore-castle head. But the wind petered out and we drifted very uneasily for over forty-eight hours. The

crew were mostly drunk and we had to get the anchors over again ready to let go if necessary.

Well, we in the *Palomar* crept up the coast and in the morning were off Sydney Heads. After the usual delays and inspections we were towed up to Neutral Bay, where we anchored after a passage of over 120 days from Plymouth.

### SOME PROBLEMS IN THE TREATMENT OF PEPTIC ULCER.

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PEPTIC ULCERATION always forms a fruitful subject for review, because not only is it of such common occurrence, but skilful treatment of the right kind and at the correct time is of the greatest importance in the cure of this malady. Few diseases can boast of a more extensive literature reflecting the alterations in theory which the passage of time has brought about and the mutations in practice which logic compelled. Even at the present day there is considerable divergence of opinion as to the nature of the treatment that will prove more beneficial. Statements are frequently made in the name of some recognized authority and are accepted as being beyond all question. It will be obvious that a more accurate and more scientific knowledge will be obtainable if no statement is accepted unless it is supported by definite evidence.

It would appear natural that all peptic ulcers begin as acute lesions, possessing a strong tendency to heal; but not infrequently they are prevented from so doing by certain peculiar influences to which they are subjected. Experimentally produced acute ulcers in normal animals heal with the greatest readiness, usually in three or four weeks—in fact, the difficulty has been to prevent them from healing. There is no reason to believe that man will prove an exception in this respect. In those rare instances in which hæmorrhage has caused a fatal outcome, the acute ulcer is found to have spread only in one direction whilst healing elsewhere is usually well advanced. Further, in acute infections and intoxications, acute ulcers in all stages of healing are frequently encountered in those subjects who have died after a period of three or four weeks.

Unfortunately, apart from hæmorrhage, which is not uncommon, and perforation, which is rare, acute ulcers are usually symptomless; hence no statistics are available as regards their incidence. It is believed that a small minority of these ulcers go on to form subacute or chronic ulcers. The idea that a chronic ulcer originates as an acute lesion dates from the time when these lesions were first clearly differentiated by Cruveilhier one hundred years ago. It has been shown experimentally that delayed emptying of the stomach associated with hyperacidity of its contents will convert an acute ulcer into one of the chronic type. Crohn and Reiss have shown by radiographic and test meal examinations that, whilst a chronic ulcer was healing under medical treatment, the emptying time of the stomach was shortened and the acidity of its contents was as a rule diminished. Further, both medical and surgical treatments are directed towards the rectification of those two conditions which are believed to be exciting causes of chronicity.

It therefore follows that, if physicians could recognize and treat the subacute lesion, chronic peptic ulcer would become a clinical curiosity, because at this stage the functional disorders leading to delayed emptying of the viscus and hyperacidity of its contents are readily curable by medical means.

In gastro-enterological cases a routine examination of the faeces for occult blood should form just as an essential part of the examination as testing of the urine for albumin in suspected renal disease. Gregersen's modification of the benzidine test is extremely simple and may be carried

out by anyone possessing an elementary knowledge of chemistry. When a "+" or "++" result is recorded, a detailed investigation of the gastro-intestinal tract should be carried out by means of radiography, test meal examinations *et cetera*.

It is a well-known fact—but one not sufficiently appreciated—that symptoms rapidly disappear during the first few days of medical treatment and long before a chronic ulcer can possibly have healed. In fact, if the symptoms do not rapidly subside, we suspect that either the ulcer has penetrated deeply to involve some organ such as the pancreas, or cicatrization has produced some organic structural change such as pyloric stenosis *et cetera*.

Many chronic ulcers will slowly heal under suitable conditions, but a certain number are intractable to treatment. Arthur F. Hurst and Mathew J. Stewart have pointed out in a series of 4,000 autopsies that scarring (2.3%) from chronic gastric ulcer occurred in about equal frequency to open ulcers (2.2%).

It is a comparatively easy matter to follow the healing process of a gastric ulcer by serial radiographs, and several series of cases have been published. Absence of occult blood from the stools is no guarantee that complete healing has occurred. It merely indicates that the ulcer is no longer active or spreading. Disappearance of the niche means that the ulcer has become filled by granulation tissue *et cetera*, and if symptoms do not recur within six months the ulcer may be assumed to be completely healed.

Unfortunately, this event is not the closing phase in the life history of many ulcers, for there is a great risk of recurrence. It is undoubtedly true that the longer an ulcer has remained open, the more difficult the healing process and the less sound the scar. The regenerated mucous membrane is thin and deformed and implanted on dense fibrous tissue with an imperfect blood supply.

Charles Bolton carried on an investigation of twelve of these late cases (by X-ray examination) over a period of from two to five years. In seven cases healing remained sound, in five the ulcer was still present. Hence, N. A. Nielsen reasonably argues that the prompt recognition of symptoms must be an essential contribution to the therapeutics of this disease. Unfortunately at the present time a chronic peptic ulcer is rarely diagnosed and treated efficiently until the patient has had several relapses over a period of years.

There are three possible causes for a return of symptoms: (i) the ulcer may persist in an unhealed condition; (ii) a new ulcer may form in another situation (11.5% of Stewart's autopsies); (iii) the cicatrix may break down.

In most of the recurrences observed by radiography the niche has reappeared at its former site; this fact would point to reulceration of the scar.

A few years ago N. A. Nielsen stated that about 88% of relapses occurred within the first two years, and he thereupon postulated that after such time there was only a small liability to recurrence. Taking a time limit of two and a half years, this observer worked out in a series of cases the number of cures during such a period of time, according to the age of the ulcer (Table I).

TABLE I.  
(After Nielsen.)

Duration of illness.	Cured.	Improved.	Total.
6 months .. ..	60.0%	16.7%	76.7%
6 months to 1 year ..	54.1%	16.7%	70.8%
1 to 3 years .. ..	36.9%	21.0%	57.9%
3 to 5 years .. ..	20.0%	26.7%	46.7%
5 to 10 years .. ..	10.8%	10.8%	21.6%
Over 10 years .. ..	5.3%	17.6%	22.9%

This table demonstrates the important fact that with regard to moderately recent ulcers (up to one year) a permanent freedom from relapse can be prophesied in 54% to 60% of cases, but if the duration of the illness is

TABLE II. (After Einhorn and Crohn.)  
Remote Results of Medical Treatment.

Year.	Number of Cases.	Period of Follow-up (Years.)	Cured.	Improved.	Unimproved.	Operated On.
1922	22	4	27.3	22.7	9%	32%
1923	17	3	41.2	23.5	6%	23%
1924	30	2	56.6	10.0	7%	23%
1925	32	1	67.5	22.0	9%	3%

five years and upwards, the probability of a permanent cure will be reduced to less than 10%. The supposition is that the scar of an old ulcer is unsound and the covering epithelium readily reulcerates.

More recent statistics have indicated that the longer the period of observation after medical treatment, the greater becomes the proportion of relapses and the smaller the proportion of cures.

Einhorn and Crohn continued an investigation of 100 cases of peptic ulcer over periods ranging from one to four years, between 1922 and 1925 (Table II).

It would thus appear that at the end of four years from the institution of efficient medical treatment, only 50% of the patients remain cured or even improved, and in this series one-third had to submit to surgical measures. These figures are in close agreement with those of B. E. Thompson, who followed up, with control X-ray examinations, 128 patients who had been admitted to Saint Thomas's Hospital during the previous five years. The lesion had persisted, recurred or developed anew in 38.5% of the cases of gastric ulcer and in 33.3% of those of duodenal ulcer.

If a chronic ulcer is to heal and remain cured, its possessor usually has to alter materially his pre-ulcer habits as regards eating, drinking, smoking *et cetera*.

The standard present-day treatment adopted by physicians to induce healing consists of complete bodily and mental rest; the administration of a non-irritating food, which is easily broken down and rapidly evacuated without the induction of more than a minimum secretion of acid; and the neutralization of all excess of free hydrochloric acid by alkalis. For over a century milk has been the foundation of nearly every dietary system of medical treatment. Some forty years ago the great Russian physiologist Professor I. P. Pavlov showed that milk owed its efficacy chiefly to the presence of contained fat (which is known to inhibit gastric secretion) aided by the associated protein, which combines with some of the free acid.

In 1928, C. R. E. Freezer, C. S. Gibson and E. Mathews pointed out that, since fresh milk neutralizes approximately its own volume of a 0.3% concentration of hydrochloric acid, if approximately one and a half litres (35 ounces) could be administered so as to coincide with the varying rates and periods of acid secretion, milk in itself would be sufficient to ensure neutrality of the gastric contents, provided that not more than 1,500 cubic centimetres of gastric juice of 0.3% concentration were secreted during the day.

In point of fact, it was shown that the hourly administration of fresh milk usually resulted in achlorhydria lasting for a considerable portion of the day, but free acid tended to reappear ten to fifteen minutes before the next feed, especially towards afternoon or evening.

On attempting to repeat these experiments, one made the discovery that the various samples of metropolitan milk obtainable all gave an acid reaction (usually orange yellow to yellow—pH 6.0 to 6.5) to the Universal Indicator (British Drug Houses Limited), and such acidity was by no means invariably due to lactic acid.

Although alkaline powders have been and are being used in the treatment of peptic ulcer, it is well known that they are far from satisfactory. The ideal therapeutic agent

would be one that would neutralize hydrochloric acid without having any general systemic action and without materially affecting the gastro-intestinal secretory or motor activities.

In 1921 Freezer, Gibson and Mathews demonstrated that by the addition of an excess of such alkalis as sodium citrate ( $C_6H_5O_7Na_3 \cdot 2H_2O$ ) or potassium citrate ( $K_3C_6H_5O_7 \cdot H_2O$ ) and calcium phosphate ( $Ca_3(PO_4)_2$ ) or magnesium phosphate ( $Mg_3(PO_4)_2$ ) to five cubic centimetres of 0.3% solution of hydrochloric acid, neutrality (pH 7.0) was obtainable within one minute. The resultant solutions did not, however, become alkaline, as was the case when magnesium oxide ( $MgO$ ), magnesium peroxide ( $MgO_2$ ) and sodium bicarbonate ( $NaHCO_3$ ) were used.

Further, the fractional test meal investigations of Crohn and Reiss have demonstrated that magnesium oxide, sodium bicarbonate *et cetera*, after neutralizing the acid present in the stomach, stimulate the secretion of more acid, and with the exception of histamine are the most powerful known excitants of gastric secretion.

Formerly it was the practice at the Prince Henry Hospital for the resident medical officers to prescribe "Sippy's powders" on the patient's admission to hospital in all cases of chronic peptic ulcers. These powders were subsequently omitted two days prior to the administration of a fractional test meal; the graphs tended to be as high even as the charts. The systematic elevation of acidity curves that follows the routine administration of *Pulvis Bismuthi et Oretæ* (A.P.F.), of *Pulvis Antacidus* (A.P.F.) or of *Pulvis Oretæ Alkalinus* (A.P.F.), whilst of common knowledge to the biochemist, is apparently unknown to the general practitioner and to many physicians. If such compound powders are administered, they should be prescribed in doses insufficient to effect complete neutralization, so that secondary stimulation is not produced.

Few ulcer patients who come to the surgeon have been really systematically treated. Over the course of years they may have had numerous tins of alkaline powder and perhaps a week or so in bed when the pain was unusually severe; but no curative tests have been applied, nor has any post-ulcer régime been instituted.

But probably the greatest breach in the technique of the treatment of gastro-duodenal ulcer has been committed by the surgeon. In the early years of the present century gastro-jejunostomy was performed as a routine treatment for duodenal ulcer, irrespective of the age of the patient and of whether stasis of the stomach was present or not. Leslie Pyrah analysed the after-histories of patients operated upon for duodenal ulcer at the General Infirmary at Leeds between the years 1922 and 1931, and found that 21% (80 patients) had had an unsatisfactory result. But of these 80 patients, 61 had been operated upon before attaining the age of thirty years, and the vast majority of them were young people possessing a hyperactive, hypersecreting, hyperacid and rapidly emptying stomach, in which there was no delay. Now it is a surgical axiom that gastro-jejunostomy is contraindicated in such cases, and that if any operation is undertaken it should be partial gastrectomy.

There is no single universal operation for a gastric or duodenal ulcer that has resisted medical treatment. Each case must be studied on its merits and reviewed in the light of clinical, chemical and radiological examinations.



# The Medical Journal of Australia

SATURDAY, JUNE 27, 1942.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

Reference to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

## ANÆSTHESIA AND DENTAL SURGERY.

MEDICAL PRACTITIONERS who undertake an operative procedure on a patient expect the anæsthetist to provide himself with adequate equipment and to be proficient in its use. No one with any knowledge of surgical procedures will cavil at such a requirement. In operations about the mouth and throat it is particularly necessary that proper skill be shown by both operator and anæsthetist, lest foreign material be inhaled into the lower respiratory passages. A medical practitioner who is about to become the patient in any oral surgical adventure will be most insistent on the efficiency of his anæsthetist, and whether he is operator or patient he will realize the advantages of local or regional anæsthesia. When regional or local anæsthesia is used the operator enjoys the cooperation of the patient, and untoward happenings can on this account be the more easily avoided. Medical practitioners have not all had the salutary experience of undergoing a surgical operation, but there must be very few who have not had to submit to treatment at the hands of a dental surgeon. They will surely not deny to the dental surgeon all the advantages and provisos that they claim for general surgeons.

The subject of general anæsthesia and dental extractions has recently been brought to the notice of readers of this journal by a letter from the Victorian Branch of the Australian Dental Association to the Victorian Branch of the British Medical Association. In this letter, which was published in the issue of June 13, 1942, the Australian Dental Association expresses its concern over the increasing frequency of lung abscess following dental extractions under "open" ether anæsthesia when the patient is in the supine position. The Dental Association recognizes to the full the responsibility of the dental surgeon in such accidents as the aspiration of teeth and foreign material, but it asks for the cooperation of medical

practitioners that by improvement of the type of anæsthesia the risk of such happenings may be lessened. In view of this request, which is entirely reasonable, the occasion is appropriate for a review of the whole subject as it affects practitioners of medicine.

During recent years dental caries has been much less in evidence than it used to be. That this is so redounds to the credit of both medical and dental hygienists. The medical practitioner and the dental surgeon have a common objective and neither of them will look on the person with complete upper and lower artificial dentures as anything but a standing reproach. The medical practitioner knows now that removal of teeth is not desirable unless there is proper indication for such a procedure; and the dental surgeon seizes every opportunity to impress on his patients the value of preventive dentistry. For all that, numbers of teeth still have to be removed. Sometimes a demand for removal is made without justification, and dental surgeons may have to take a firm stand if the correct course of action is to be adopted. Dental surgeons of the present day are opposed to the extraction of many teeth at one operation. They are invariably guided in determining the extent of any procedure by the extent and nature of the existing pathological process. They know only too well that too extensive an operation may expose the patient to a risk of general dissemination of sepsis. In these circumstances it is not surprising that local anæsthesia, preferably in the form of regional anæsthesia or nerve blocking, is generally adopted, together with adequate opening up of the tooth socket in certain circumstances. There are occasions when general anæsthesia is required, but these are rarer as time passes. As a matter of fact, some dental surgeons state that requests for the extraction of teeth under general anæsthesia are more often made by medical practitioners on behalf of their patients than by the patients themselves. This raises the very important question of the relationship of the medical practitioner to the dental surgeon. It is quite possible that some practitioners of medicine do not regard the necessary extraction of teeth as a procedure of more than passing importance; if this is so, it is probably because they have never stopped to think seriously about it. It is probably the same want of thought that sometimes lies behind the suggestion made to patients that they should have their teeth removed because they are possibly the focal origin of some pathological process in another part of the body. The correct procedure in such circumstances is to refer the patient to his dental attendant and to consult with the latter regarding the culpability of the teeth. The dental surgeon is trained in pathology as well as in the operative side of his calling. It is as natural to expect from him an intelligent and well-informed opinion on the pathology of the mouth and teeth as it is to expect a similar opinion from the medical practitioner on the pathology of, let us say, stomach, liver or bowel. Not to look for such an opinion is to offer serious slight to a learned sister profession. It has already been pointed out that on occasions extraction of teeth under general anæsthesia may be desirable and necessary. In these circumstances the dental surgeon has a right and a duty to see that the anæsthetist chosen is one who has command of a suitable method. What is known as the endotracheal method of anæsthesia will often, if not always, be the

most desirable. When this method is used the advantages are great, because packing can be inserted and the inhalation of blood, of mucus or of any foreign body is completely obviated. Sometimes nitrous oxide and oxygen are suitable, and here it is well to remember that these anæsthetic agents can quite safely be used with the patient in the upright position in the dental chair. In support of this statement, readers are referred to a paper by Noel E. Heath published in this journal in the issue of October 8, 1938. Heath surveyed the question of general anæsthesia for dental surgery and reported experimental work carried out by himself. The two suggestions that remain are those made by the Victorian Branch of the Australian Dental Association, namely, the adoption of a semi-supine or modified Fowler's position, and the use of an intranasal endopharyngeal method. Some dental surgeons will probably declare that there are certain teeth for the extraction of which the placing of the patient in the semi-supine position will not give any added advantage. It must also be confessed that the intranasal endopharyngeal method is very much inferior to the endotracheal method. Whatever happens, there must be no *laissez-faire* about this question; medical practitioners have been asked by members of a sister profession to make the dental road of patients as far as possible a road of safety. There must be a response to this appeal. The medical practitioner will be of the greatest help to the dental surgeon if he assures doubtful patients that regional anæsthesia is as a rule the safest and most satisfactory method; it is often the attitude of the patient that needs attention more than anything else. If general anæsthesia has to be used, the medical practitioner should imagine himself to be in the patient's place and use only the method which in such circumstances he should like to have used on himself.

## Current Comment.

### THE INDUCED ANOXÆMIA TEST.

THE results of low oxygen tension are the same whether they are induced by altitude or by artificial dilution of the inspired air. They can be relieved immediately by the administration of an amount of oxygen sufficient to simulate sea-level conditions. The condition of induced anoxæmia has attracted the attention of many famous physiologists, beginning with the Pike's Peak expedition of 1911, when Schneider, Henderson, Haldane and Douglas spent several weeks at the summit of this 14,000 foot mountain. Later investigators have studied and confirmed their findings by placing a subject in a chamber in which the percentage of oxygen could be controlled, or more recently, by the use of a rebreathing apparatus, when the subject breathes the air from a tank, thereby causing a progressive decrease of oxygen. Studies of this type, especially where changes in oxygen pressure are rapid, are of special importance in the solution of modern aviation problems.

The application of a test to sufferers from heart damage and the reaction and the electrocardiographic changes following induced anoxæmia were investigated by Keefer and Resnik about 1928. The test was based upon the theory that a damaged heart, subjected to anoxæmia, might early exhibit functional disturbances which would appear only in the presence of a more profound anoxæmia of the normal heart. *Angina pectoris* is due to a disproportion between the flow of blood in the coronary

vessels and the work of the heart, and this conception furnishes a basis for the test under consideration. C. T. Burnett, M. G. Nims and C. J. Josephson have applied the test to 125 normal persons in a study by age groups.<sup>1</sup> The tests were conducted at Denver, Colorado, which is a mountain city, so that correction was made to the oxygen mixture of the apparatus so as to simulate conditions at sea level. Previous workers have accepted alterations in the amplitude and direction of the *T* waves and shifts in the position and form of the *RS-T* segments as important experimental evidence of myocardial ischæmia when these changes appeared under conditions of induced anoxæmia. Levy, Breunn and Russell laid down criteria for the cardiographic recognition of myocardial insufficiency under these conditions as follows. The arithmetic sum of the *RS-T* deviations in all four leads should not exceed three millimetres. Partial or complete reversal in the direction of *T* in Lead I or Lead 4F if accompanied by *RS-T* deviation of one millimetre or more is significant, and complete inversion of *T* is important, regardless of *RS-T* deviation. Burnett and his co-workers used a gas mixture of 10% oxygen, and the carbon dioxide expired was passed out immediately, so that a constant percentage of oxygen was obtained regardless of the duration of the test. In each instance the subject rested in bed for one hour prior to the commencement of the test, a control electrocardiogram was taken and the patient was thoroughly reassured, after which he was given the gas mixture from the inflated bag instead of room air. The blood pressure, pulse rate and electrocardiogram were recorded every five minutes. At the end of twenty minutes 100% oxygen was given for one minute, and the blood pressure, pulse rate and electrocardiogram were again recorded. At two-minute intervals the patient was tested for response to auditory and visual stimuli.

The patients were arranged in ten-year age periods and the average cardiographic alterations were determined. In the first age group (21 to 30 years) there was a prompt and early depression of all *T* waves, especially *T*<sub>3</sub>, with a deviation of the *RS-T* segment from the iso-electric line. These changes reached their maximum at the end of the twenty-minute exposure to the 10% oxygen mixture. Changes in the later decades were not more marked than those in the earlier age groups. The pulse rate and blood pressure response to anoxæmia were insignificant. There was a prompt but moderate increase in pulse rate, and no changes in blood pressure when the subject was exposed to the low oxygen mixture. It is thus seen that none of Levy's criteria for the detection of myocardial ischæmia were fulfilled in the majority of the subjects tested. Some subjects, however, showed an abnormal response according to Levy, but the history, absence of symptoms and physical examination, together with the control cardiogram, failed to reveal any evidence of cardio-vascular disease. This group constituted 19.2% of the 125 persons examined. Twenty-two showed complete reversal of *T*<sub>4</sub>, two showed total *RS-T* deviations of three millimetres or more, and one showed complete reversal of *T*<sub>1</sub> and *RS-T* deviation of one millimetre. According to these authors, therefore, reversal of *T* in Lead 4F, in response to induced anoxæmia, cannot be accepted as indicative of coronary insufficiency.

In addition to the series of 125 normal subjects, Burnett *et alii* report 45 observations in which failure to complete the twenty-minute exposure places them in a separate group. In 24 of these the test was interrupted usually after a definite evidence of profound anoxæmia had shown itself. Nine persons complained of precordial pain of some type, but none had ever had any objective evidence of cardio-vascular abnormality. Of this group only two gave an abnormal response in the cardiogram. On the other hand, seven persons who presented equivocal evidence of a cardiac abnormality due to coronary disease included two with normal cardiographic responses in spite of the fact that the tests had to be interrupted at the end of fifteen minutes. It is thus apparent that a negative or normal response by a patient who presents equivocal

<sup>1</sup> *American Heart Journal*, March 14, 1942.

evidence of coronary disease adds little to the diagnosis and may further cloud the clinical picture. Burnett and his colleagues also conclude from an admittedly small group of cases that the occurrence of pain during the test is not of much diagnostic value.

Perusal of the report by Burnett, Nims and Josephson reveals that there are certain hazards incidental to the anoxemia tests. Untoward symptoms occurred in 17 of 189 tests, which had to be interrupted. Five of the individuals suffered severely enough to cause alarm. This is to be anticipated when the nature of "mountain sickness" is remembered and when it is recalled that there are many records of severe symptoms and even death from sudden changes from sea-level to a high altitude. Resnik has observed bundle branch block and auricular and ventricular fibrillation during experimental anoxemia. Syncope, acute pulmonary oedema and even cardiac necrosis can follow relative starvation of the myocardium for oxygen. Minor symptoms, such as vaso-vagal attacks in predisposed individuals, were observed by Burnett during his studies, together with twitching and incoordination, such as Haldane and his colleagues reported during their tank experiments. There is a further and even more serious danger, namely, the risk of functional and even structural damage to the brain, especially the arterio-sclerotic brain, during brief periods of anoxemia. Some of the patients studied at Denver and elsewhere complained of headache and inability to concentrate, extending over the day following the test. Burnett and his friends reluctantly concluded that for the present the test should be considered as strictly a hospital procedure, requiring meticulous care in the selection of the subjects and in the performance of the test itself.

Though some correlation was detected between the efficiency of the coronary circulation and the electro-cardiographic response, there have been too many "abnormal" responses in normal subjects, and "normal" responses in abnormal subjects, to justify the use of the test at present in clinical diagnosis. The accepted idea that some degree of coronary artery change is associated with the ageing process is not supported by these studies; but this conflicts with the more reliable visual evidence of the post-mortem room and is a further reflection upon the inaccuracy of the results obtained by this technique. The assessment of cardiac reserve in coronary disease must still be based upon sound clinical premises and cannot be reduced to exact arithmetical terms by the cardiographic or any other new ancillary tests for cardiac function. This latest practice, the induced anoxemia test, as conducted at present is misleading, difficult and dangerous.

#### PREGNANCY IN THE SYPHILITIC MOTHER.

THE problem of the treatment of syphilis during pregnancy does not often arise, but, when it does occur, careful attention is essential because of the frequency of disastrous results to the child if the treatment is haphazard. This subject of pregnancy in the syphilitic mother has been recently discussed by S. T. Benesohn,<sup>1</sup> who stressed the importance of regarding weak serological reactions during pregnancy as of the same urgency as the stronger complement fixations. The object of therapy is to maintain an adequate amount of germicidal agent in the blood stream at all times throughout the duration of the pregnancy, and therefore treatment should be given frequently without rest intervals. Benesohn reports the use of 0.6 gramme of "Neocarsphenamine" by the intravenous route, together with 0.13 gramme of bismuth salicylate by the intramuscular route every week until delivery. While using such intensive therapy, this author had one death from exfoliative dermatitis, and accordingly he suggests that treatment should be deferred in patients with the slightest degree of dermatitis, albuminuria, elevated blood pressure or pyrexia. If this rule is adhered to, and if the obstetrician collaborates with the der-

matologist, such severe reactions should be rare. The most common complication of this method of treatment was nausea and vomiting two to four hours after the injections. This alone is not sufficient indication to discontinue treatment; but treatment should immediately cease if the temperature exceeds 99.2° F., if a trace of albumin appears in the urine, if the systolic blood pressure exceeds 140 millimetres of mercury, if upper respiratory or other infections develop, if there is the slightest pruritus or if the patient reports severe or persistent vomiting after any single injection. From a review of the toxic manifestations Benesohn concludes that the pregnant syphilitic woman tolerates arsenic therapy as well as the non-pregnant patient. Only 39% of all untreated syphilitic mothers transmit the infection to the foetus, and with treatment this figure is reduced to 6.7%. It is, however, necessary to be able to determine rapidly which of the children are affected, so that treatment may be commenced without delay. In the absence of clinical signs the best method of investigating the presence or absence of syphilis in the infant is not by the application of the Wassermann test to the blood, but rather by a study of any bony changes that may be present in skiagrams. If the mother has a positive Wassermann reaction, the child will also show a positive reaction for the first two months of life whether it is infected or not. It is important to remember this or many false cures will be claimed in the infants, and the method of treatment of the mothers will be erroneously condemned.

#### GLASS IN THE ANTERIOR CHAMBER OF THE EYE.

T. C. SUMMERS AND H. HOBBS report a case in which removal of a spicule of glass from the anterior chamber of the eye some months after it had entered was followed by recovery of full visual acuity.<sup>2</sup> The patient was injured in an air raid and immediate excision of the right eye was necessary. Examination of the left eye revealed a small spicule of glass in a triangular flap wound of the left cornea. As it was impossible to employ any means of removing the glass at once, the decision was made to delay until healing of the wound had occurred. The wound healed, and four months later the patient was discharged to out-patient supervision. One month later he was readmitted to hospital complaining of sudden, severe irritation of the eye with greatly reduced vision. Examination of the cornea revealed a dense interstitial haze, and above, considerable bedewing of the endothelium; ciliary injection was severe. After a period of treatment it was possible to see the piece of glass lying in the extreme lower angle of the anterior chamber. Visual acuity at that time, with a small correction, was 6/12. A few days later inferior hemisection of the cornea was performed and the glass was felt and removed. The wound healed rapidly and the patient's visual acuity at the time when the report was written was 6/5 with a small correction. This report, as the authors state, shows how severe the irritation caused by glass in the anterior chamber can be. At the same time it shows that recovery is possible.

#### INDEX TO "THE MEDICAL JOURNAL OF AUSTRALIA".

IN order to comply with the regulations regarding the restricted use of paper and to conserve stocks, it has been decided that the index for Volume I, 1942, of THE MEDICAL JOURNAL OF AUSTRALIA will not be dispatched as heretofore with every copy of the current issue. It will be published separately at the end of July. Copies will be sent to exchange journals, to libraries and to medical and other scientific societies on the regular mailing list. It will also be sent post free to any reader who makes application to the Manager at The Printing House, Seamer Street, Glebe, New South Wales.

<sup>1</sup> American Journal of Obstetrics and Gynecology, March, 1942.

<sup>2</sup> The British Journal of Ophthalmology, February, 1942.



## Abstracts from Medical Literature.

### MEDICINE.

#### Results of Chemotherapy in Subacute Bacterial Endocarditis.

HENRY FIELD, JUNIOR, *et alii* (*The American Journal of the Medical Sciences*, December, 1941) report their experiences in the treatment of 36 patients suffering from subacute bacterial endocarditis, who more than two weeks before death received one of the sulphonamide drugs for more than one week. The drugs used included sulphanilamide, sulphapyridine, sulphathiazole, sulphamethylthiazole, neoprontosil, and sodium paranitrobenzoate. There was frequently a subsidence of fever without apparent effect on the course of the disease. In three cases there was complete remission of fever, and attempts to produce blood cultures repeatedly failed for eighteen days, nineteen days, and two months respectively; but all the patients eventually died, despite continued chemotherapy. There was one cure in a probably proven case. Among five patients who also received continuous intravenous injection of heparin there was one death with cerebral hemorrhage, and no cure.

#### Benign Tertian Malaria Simulating Rubella.

C. M. VAILLANT (*Journal of the Royal Army Medical Corps*, November, 1941) reports a series of cases in which the patients suffered from frontal headache, conjunctival injection, and pains behind the eyes, and pyrexia ranging from 101° to 103° F. In addition, a rash indistinguishable from rubella was present, but no occipital adenitis. However, the diagnosis of German measles was made and treatment was instituted accordingly. Resolution did not take place and the most seriously ill patient complained of left upper abdominal pain with some splenomegaly; he also stated that he had had similar symptoms in previous attacks of malaria. In six other cases the spleen was palpated and blood examination revealed the parasite of benign tertian malaria in all cases in the series. Standard treatment with quinine led to a complete and uneventful recovery with disappearance of the rash in every patient. Some fifty cases in all were seen. It was suggested by the consultant to the forces in that area that these patients were suffering from malaria and prickly heat, the rash of which very closely resembles that of measles. The pyrexia of the malaria naturally accentuated the prickly heat, which possibly was common to all members of the unit.

#### Sandfly Fever.

A REVIEW of sandfly fever in the Peshawar district of India is given by W. M. E. ANDERSON (*Journal of the Royal Army Medical Corps*, November, 1941). The disease is caused by a virus conveyed by the sandfly *Phlebotomus papatasi*. Shortt has shown that it is possible to demonstrate the presence of the virus in the blood serum by culture on chorio-allantoic membrane, and in the series of 133 cases under review

78 gave definitely positive results to this investigation, 14 gave doubtful and 40 negative results (in one case a contamination occurred). This suggests that a laboratory test of some value in differential diagnosis may be soon available. The clinical features are given under two headings, "severe" and "mild", the difference being one of intensity; in the former group the diagnosis is usually easy, but the latter group provides greater difficulties. The chief symptoms are headache, malaise, pain behind the eyes, backache and myalgia. The usual signs are flushes of the face, conjunctival suffusion, photophobia, coated tongue with clear red margin and tip, faucial injection. The temperature was up to 104° F., with a pulse rate comparatively slow and full; this is an important diagnostic feature. The leucocyte count revealed a leucopenia with relative increase in mononuclear cells. The most important conditions to be distinguished are "effects of heat", "coprahemic fever", influenza, enteric fever, typhus fever, dengue, undulant fever and acute septic conditions. Successful differentiation depends on thorough physical examination, careful daily examination and full laboratory investigation. Recovery occurred in all cases and treatment was largely symptomatic. The virus was shown still to be present in the blood of a considerable number of patients four to five weeks after the date of onset. It has not yet been determined whether such convalescents can act as reservoirs of infection and transmit the virus to sandflies; but that they should be subject to some form of isolation is worthy of consideration.

#### Thiocyanate Therapy in Hypertension.

M. HERBERT BARKER, HOWARD A. LINDBERG AND MAURICE H. WALD (*The Journal of the American Medical Association*, November 8, 1941) state their impressions concerning thiocyanate therapy in hypertension after having closely observed 246 patients for periods ranging from two to ten years. The criteria of cyanate response used in their clinic are (a) general clinical improvement, (b) a substantial reduction in blood pressure (30 to 60 millimetres systolic and 20 to 40 millimetres diastolic) associated with (c) a blood cyanate concentration of from eight to twelve milligrammes per hundred cubic centimetres. The authors selected their cases for cyanate therapy under the following conditions: first, when the other usual clinical measures had failed (social and psychiatric adjustments, sedation and prolonged rest, cardio-vascular support, vasodilators and the like); second, when the patient's condition was either uncontrolled by the measures just mentioned or excessive sedation was necessary to control his symptoms so that he was physically, mentally and socially incompetent to carry on his daily routine; and finally, after surgical treatment which had been unsuccessful. The authors remind the reader that close observation and clinical judgement must be exercised in the use and interpretation of the results of cyanate therapy. They have found a blood cyanate concentration of eight to twelve milligrammes per hundred cubic centimetres to give the best sustained symptomatic relief and improvement in blood pressure without endangering the welfare of the patient. Systematic estimation of the blood concentration of the drug enables a check to be made

as to whether the dosage is adequate or whether the patient is taking the prescribed dose. Drug excretion studies show that there may be an individual variation of 400%, which emphasizes the importance of having a method for evaluating the dosage. An individual patient shows variation of drug concentration depending on fluid balance, which varies with the season, with fluid intake and with physical activity. In regard to dosage, the authors begin treatment with 0.3 gramme (five grains) of potassium thiocyanate daily in either liquid or tablet form. The blood cyanate determinations are then made at weekly intervals for from four to six weeks and the dose may be doubled during the second or third week if the blood concentration has not reached the level of six milligrammes per hundred cubic centimetres and if the blood pressure change has been insignificant and no toxic symptoms have developed. Symptoms of fatigue, somnolence and mental retardation are often experienced during the first four to six weeks of therapy, which are not as a rule indications for discontinuance of therapy, but rather for moderation of the dose. Caution is advised in the case of the patient with poor renal function because of his reduced clearance of cyanate, and also in the case of the patient with advanced arteriosclerosis in whom a rapid reduction of blood pressure may result in vascular occlusions. When the symptoms, blood pressure, dosage and blood cyanate level have been satisfactorily correlated, the patient should return for review at intervals varying from one to three months. The authors found that controlled cyanate therapy relieved symptoms and reduced blood pressure in 47.5% of patients with hypertension; that blood pressure reduction is effective only by adequate blood cyanate concentration of from eight to twelve milligrammes per hundred cubic centimetres; that improvement is to be expected in from two to four weeks; and that a maintenance dose must be individualized, depending upon symptoms, blood pressure response and blood cyanate concentration (eight to twelve milligrammes per hundred cubic centimetres). The dosage for any individual varies according to renal clearance, fluid balance, circulatory efficiency and seasonal variations. The determination of the thiocyanate content in the blood is the only safeguard to dosage control.

#### The P-R Interval in Paroxysmal Auricular Fibrillation and Flutter.

MAX J. KLAINER AND MARK D. ALTSCHULE (*The American Journal of the Medical Sciences*, February, 1942) discuss the prolongation of the P-R interval in patients with paroxysmal auricular fibrillation and flutter following myocardial infarction, and report upon an analysis of the electrocardiographic records of fourteen such cases. The authors state that 64% of patients with paroxysmal auricular fibrillation and flutter due to cardiac infarction also have a variable but abnormally prolonged P-R interval within a few days of the onset of fibrillation; and that available evidence, though scanty, suggests that the prolonged P-R interval of cardiac infarction is probably due to increased vagal activity. The authors are of the opinion that the frequent occurrence of auricular fibrillation and flutter fol-

lowing cardiac infarction cannot be explained as directly due to anatomical findings, since the latter lesions are almost always ventricular. As increased vagal activity appears to be one factor responsible for the occurrence of auricular fibrillation in general, the development of this arrhythmia following ventricular infarction becomes understandable.

### Lymphatic Leuchæmia.

FRANK H. BETHELL (*The Journal of the American Medical Association*, January 10, 1942) states that lymphogenous (lymphatic) leuchæmia comprises a group of pathological states which have as their common attribute disordered and continued proliferation of lymphocyte-forming tissue, not limited by any recognized irritant or other stimulus, and revealed by continuous or intermittent alteration in the lymphocytes of the circulating blood. He has studied 190 cases of lymphogenous leuchæmia. These have been divided into cases of (i) lymphoblastic leuchæmia, (ii) lymphosarcoma-cell leuchæmia, and (iii) lymphocytic leuchæmia; the division was made according to the morphological characteristics of the abnormal lymph cells in the circulating blood. With regard to age and sex incidence, the author states that lymphoblastic leuchæmia is a disease of childhood and affects twice as many males as females; lymphosarcoma-cell leuchæmia may occur at any age, and males are chiefly affected; lymphocytic leuchæmia occurs almost exclusively in the middle and later years of life and affects more males than females. The chief symptoms of lymphoblastic leuchæmia are anæmia, fever, a tendency to uncontrollable hæmorrhage, and susceptibility to infection; lymphosarcoma-cell leuchæmia is characterized chiefly by the presence of lymphosarcoma cells in the blood stream. Lymphoblastic leuchæmia has a duration usually of less than four months; either its course is not affected or it is accelerated by X-ray therapy. The course of lymphosarcoma-cell leuchæmia, after the development of a leucæmic blood picture, is usually rapid; but in some cases X-ray therapy is of value if used cautiously. The course of lymphocytic leuchæmia is generally relatively benign, and as a rule X-ray therapy is of value. The author points out that the prognostic and therapeutic indications cannot with safety be based on the morphological characteristics of the affected cells alone; it is necessary to take into consideration the histological condition of the blood and blood-forming organs, and the clinical features.

B. K. WISEMAN (*ibid.*) discusses the nomenclature of lymphatic leuchæmia, the mechanism of production of the primary lymphatic diseases and the clinico-hematological aspects of leuchæmia. He thinks that, although from the point of view of descriptive pathology a number of terms may be desirable, the terms lymphosarcoma, leucosarcoma and lymphatic leuchæmia (including the type of Cohnheim) are adequate to cover all types of non-infectious primary lymphocyte dyscrasias known at present. He considers that study of the subject suggests that all the primary non-infectious diseases of the lymphocyte are basically states of leuchæmia. He presents an hypothesis of the two mechanisms responsible for the pro-

duction of leuchæmia: (i) a neoplastic process; (ii) a process that is neither neoplastic nor infectious, but possibly metabolic. Both types, in his opinion, occur with and without lymphocythæmia. He deplores the fact that disorder in nomenclature, failure to recognize the lymphocyte as a separate, distinct strain of cell, and confusion of the diseases primarily involving the reticulo-endothelial system with those primarily involving the lymphocyte, have largely prevented a rational attempt to understand the lymphocyte and lymphatic dyscrasias. He believes that there are only two basic primary non-infectious diseases of the lymphocyte. Both at some phase of the disease are accompanied by quantitative or qualitative changes (or both together) in the lymphocytes in the peripheral blood; but the mechanism of production of the two types differs. The author holds that this concept of the primary diseases of the lymphocyte is supported by scientific evidence and works in clinical practice, and that it permits accurate diagnosis, reasonable prognostic accuracy and maximum efficiency of treatment. Finally he suggests that correct diagnosis of the lymphatic dyscrasias can in the majority of cases be made only by the clinician-hematologist, who must base it on the clinical features, the peripheral blood and bone marrow findings and the microscopic appearances of the lymphatic tissue. The pathologist's interpretation of the lymph node findings alone is often insufficient.

### Hypoprothrombinæmia in Pernicious Anæmia.

E. D. WARNER AND C. A. OWEN (*The American Journal of the Medical Sciences*, February, 1942) have studied twenty cases of Addisonian pernicious anæmia with particular reference to the plasma prothrombin level. The diagnosis was based on the history and on the clinical and laboratory findings, together with the hematological response to liver extract. They report that patients with pernicious anæmia in relapse usually show considerable decrease in plasma prothrombin, and in the majority of such cases the prothrombin level is found to be between 40% and 60% of the normal. The hypoprothrombinæmia is not rectified by large doses of vitamin K, whereas the plasma prothrombin level rises promptly in response to specific liver therapy.

### Cardiac Infarction.

FREDERICK H. SHILLITO, FRANCIS L. CHAMBERLAIN AND ROBERT L. LEVY (*The Journal of the American Medical Association*, March 7, 1942) present a study of cardiac infarction, with special reference to the incidence and correlation of certain signs and with some remarks on prognosis. The study was based on the case records of 50 patients with uncomplicated cardiac infarction following coronary occlusion, all of whom were admitted to hospital and were examined every day by one of the authors. Forty-four of the patients entered hospital within four days of the acute attack, and 25 were observed from the first day; 17 patients died in hospital, and autopsy on 10 of them confirmed the clinical diagnosis. The signs and symptoms particularly investigated were: friction rub (found in 20%), gallop rhythm (28%), fall in systolic blood pressure (74%), elevation of venous pressure (76%),

electrocardiographic changes (86%), leucocytosis (96%), tachycardia (98%), increased sedimentation rate (98%) and fever (100%). The authors state that shortly after an attack of coronary occlusion it is difficult to predict the outcome; the patient who seems gravely ill may recover; or, conversely, at any time, and particularly during the first two weeks, death may occur suddenly in spite of an apparently benign course. Their study has convinced them of the value of three signs as a guide to prognosis; a rectal temperature above 104° F., a leucocytosis of more than 25,000 per cubic millimetre of blood, or a venous pressure over 200 millimetres of water, each indicated a grave outlook. Estimation of the erythrocyte sedimentation rate is helpful in the differentiation between anginal pain and cardiac infarction; it is of special value in cases of infarction in which symptoms are mild and in which the clinician does not see the patient during the first few days of illness. The degree of increase in sedimentation rate is not an index of the severity of the attack; nor is it a guide to prognosis.

### Cardiac Murmurs.

PAUL D. WHITE, F. D. ADAMS AND D. CRAIG (*The American Journal of the Medical Sciences*, January, 1942) recommend a revised terminology for cardiac murmurs. These include physiological murmurs, which are intracardiac or intravascular, systolic in time, heard over the pulmonary valve area or the apex, soft blowing murmurs heard over a limited area and not associated with other evidence of cardiac disease. Extracardiac murmurs comprise cardio-pulmonary murmurs (usually called cardio-respiratory), which are usually systolic in time, faint and blowing, and heard more clearly during a certain phase of respiration, usually expiration, and pericardial sounds. These physiological pericardial sounds are superficial scratchy sounds, in systole or diastole or both, heard along the left border of the sternum, particularly after exertion and in thyrotoxicosis. It is suggested that these sounds are due to compression of the pericardial surfaces by the rigorously acting heart or pulmonary artery. Pathological murmurs are of three categories: those due to structural disease of the valves, those due to congenital defects, and those found with dilatation of a vessel or chamber, such as the apical systolic murmur of relative mitral insufficiency in hypertension, rheumatic carditis or myocardial infarction. Anæmia is another cause of pathological murmurs. These pathological murmurs are systolic or diastolic. The last type of pathological murmurs are those of pericarditis; these are systolic or systolic and diastolic, often scratchy and usually best heard at the left lower border of the sternum or midway between that region and the apex. It is often impossible to decide whether a systolic murmur, when it is slight in degree, is physiological or pathological. It is also often impossible to determine in the case of a pathological murmur whether or not it is due to deformed valves; moreover, both valvular deformity and dilatation of the heart chambers or great vessels may be factors in its production. The authors consider that this classification is far superior to the old division of murmurs into functional and organic.



## Naval, Military and Air Force.

### CLINICAL MEETING AT NORTHFIELD.

A CLINICAL MEETING was held on April 20, 1942, at the Ninth Australian General Hospital, Northfield, South Australia. This was the first clinical meeting held by Australian Imperial Force Army Medical Corps units in Australia, and took place within one month of the opening of the Ninth Australian General Hospital in Australia.

#### Tumour of the Thigh.

MAJOR F. N. CHENHALL showed a male patient, aged thirty-six years, who had first noticed a lump at the back of the left thigh in November, 1940. The swelling rapidly increased in size until April, 1941, when an operation was performed and a piece of tissue was removed for biopsy. The patient had noticed no pain or tenderness before the operation; he had had no serious illness and had always been in good health. After the operation an X-ray examination was made at the Royal Adelaide Hospital.

In January, 1942, the patient was called up for military service and passed as fit. On examination a large tumour was noticed on the posterior aspect of the left thigh; it was spindle shaped and measured seven by five inches. The uppermost limit was the fold of the buttock. The tumour was firm, mobile in the transverse plane if the muscles were relaxed, and appeared to be incorporated in the muscles and not attached to the bone. Tenderness was present over the transverse scar. X-ray examination of the patient's chest revealed no metastases.

Microscopic examination of the biopsy specimen, after decalcification and cutting of all the material submitted, failed to reveal the exact nature of the tumour, because of the great variation in its different parts. Examination of some portions revealed a calcifying fibroma, that of others revealed more active growth, and that of other portions again revealed only reactive fibrous tissue, proliferation and organization of a hemorrhage. The sections were sent to Melbourne for an opinion, which corresponded with that given at Adelaide.

LIEUTENANT-COLONEL E. S. J. KING said that in his opinion the microscopic section suggested spindle-celled tissue, probably arising from the fibrous tissue of the thigh rather than from the muscles. No giant cells were seen. The calcification was not evidence of a bony origin of the tumour, and the slow rate of growth also suggested an origin in fibrous tissue rather than in muscle.

#### Von Recklinghausen's Disease.

Major Chenhall also showed a male patient, aged twenty-nine years, who had a swelling in the left side of the neck which had gradually increased in size over a period of six years, a swelling on the right thenar eminence present for five years, which was becoming tender, and a swelling in the right side of the abdomen present for twenty-three years, which was becoming smaller. He had had no serious illness and had always been in good health.

On examination the patient was seen to be a well-nourished man, whose general condition was good. A swelling was present in the left side of the neck; it was the size of an egg, and was situated anterior and superficial to the anterior border of the left sterno-mastoid muscle. No tenderness or pain was present. The trachea was displaced to the right of the mid-line. A small nodular swelling was detected in the right side of the neck, in the middle of the anterior margin of the sterno-mastoid muscle. The clavicular and axillary glands were enlarged, firm and discrete. A nevoid growth, six inches square, was present in the right lumbar region, extending on to the wall of the abdomen. On the right thenar eminence there was a firm, discrete, tender swelling, one and a half inches in diameter; this was removed on April 10, 1942. A small swelling was present over the left eyebrow. A small swelling over the distal aspect of the left forearm was removed on April 10, 1942. Neither the spleen nor the liver edge was palpable. A fluoroscopic examination revealed no mediastinal tumour. Examination of a biopsy specimen showed the tumour to be a neurofibromyxoma.

Major Chenhall said that the patient was shown to illustrate the condition of neurofibromatosis. He was able to carry out his duties in the army, except that the tumour on the right thenar eminence interfered with his use of a rifle.

CAPTAIN MCGAREY suggested that staining of the sections with silver salts might prove the neural origin of the tumour.

Lieutenant-Colonel King said that there was no evidence in the biopsy sections to suggest the origin of the tumour tissue. While he thought that the condition was von Recklinghausen's disease, it was impossible to be certain. He suggested the removal of some tissue from the neck and the examination of further stained sections.

#### Post-Diphtheritic Paralysis.

The next patient shown was a male, aged twenty-five years, who had been admitted to the hospital on March 26, 1942. His illness had begun ten weeks previously with a sore throat, which developed when his unit was in southern Palestine. He did not go to hospital, but eventually went to Suez and on board a troopship. Three weeks after the onset he noticed difficulty in swallowing, and fluids began to be regurgitated through the nose. Ten days before his admission to hospital he noticed difficulty in reading. He had lost a considerable amount of weight, in his own opinion chiefly because of the trouble in swallowing.

Examination revealed that the patient's voice was altered in character. Right palatal palsy and slight right facial paresis were present. The arm and leg reflexes were equal and active. There was no impairment of sensation to pin prick or to cotton wool, but pronounced muscular weakness of the shoulder girdles, arms and legs was present. Nose and throat swabs yielded no diphtheria organisms.

On March 31 the patient was given 40,000 units of anti-tetanic serum. On April 1 numbness and tingling of the hands and feet developed, and the patient had much difficulty in swallowing. On April 6 the arms and legs felt numb as well as the hands and feet. On April 8 diplopia was present, although no external ocular palsy could be detected; the pupils reacted sluggishly to light and accommodation. On April 14 the left knee jerk and both ankle reflexes were absent. On April 20 diplopia was still present. The palatal palsy was diminishing. The leg reflexes were still absent, and both arms gave a faint supinator response.

The patient was presented to illustrate the condition of "missed" diphtheria followed by early and late diphtheritic paralysis, which was frequently encountered in the Middle East.

#### Interlobar Pleural Effusion.

A male patient, aged twenty-four years, was then shown. He had been admitted to hospital from a troopship on March 28, 1942. On March 6 he had been admitted to the ship's hospital complaining of pain in the right side of the chest on breathing. On March 8 signs of fluid were detected at the base of the right lung, and 30 cubic centimetres of straw-coloured fluid were withdrawn. By March 14 the fluid had begun to be absorbed.

On examination on his admission to the Ninth Australian General Hospital the patient's temperature was 99° F., his pulse rate was 80 per minute and his respirations numbered 20 per minute. No abnormality was detected in the throat, heart or abdomen. The breath sounds at the base of the right lung were slightly diminished. The patient said that he had lost a considerable amount of weight. At the age of ten years he had spent eighteen years in hospital with a diagnosis of a "spot on the lung". In October, 1941, at the Ninth Australian General Hospital, Nazareth, he had undergone an operation for bunions under general anaesthesia with ether.

On April 8 an X-ray examination of the chest revealed a large area of opacity at the base of the right lung, suggesting consolidation; it had not the typical appearance of a tuberculous lesion, and was considered to be probably unresolved pneumonia. Slightly increased opacity was noticed in the right subclavicular region, which aroused suspicion of a tuberculous lesion. Two specimens of sputum were examined for tubercle bacilli, with negative results.

On April 16 X-ray examination revealed that a rounded area of opacity was still present in the upper and posterior portion of the middle lobe of the right lung, with a small amount of gas. The appearances suggested a hydatid cyst or possibly a neoplasm. On April 18 X-ray examination after the instillation of lipiodol revealed chiefly alveolar distribution; the area of opacity in the middle lobe of the right lung did not fill.

MAJOR C. GURNER suggested that the diagnosis was a hydatid cyst of the lung or a neoplasm rather than an interlobar effusion, since the middle lobe and main lung fissures were visible. The clear-cut outline of the shadow suggested a hydatid cyst of the lung rather than effusion. The fact that the Casoni test produced no reaction did not exclude a hydatid cyst.

COLONEL A. R. SOUTHWOOD suggested that no immediate active treatment was indicated. X-ray examination should be repeated in a few weeks. If the condition was really an effusion, it would probably subside spontaneously.



Lieutenant-Colonel King suggested that if the hydatid complement fixation test produced no reaction, no immediate treatment was desirable. In any case, surgical intervention was not justified unless the diagnosis was hydatid cyst of the lung.

#### Mediastinal Effusion.

MAJOR A. D. LAMPHEE showed a male patient, aged forty years, who had been admitted to hospital on March 28 suffering from lobar pneumonia. Previously he had been admitted to the hospital on a troopship with the complaint of a stabbing pain in the left side of the chest, present for three or four days; on March 18 the medical officer had found "signs at both bases" and the patient had been treated with sulphapyridine tablets.

On his admission to the Ninth Australian General Hospital the patient's temperature, pulse rate and respirations were normal. He appeared to have lost a considerable amount of weight. The breath sounds were diminished at the base of the left lung posteriorly, and vocal resonance was altered. He was allowed up, but although he ate well he did not seem to "pick up" as would have been expected. His temperature remained normal until April 11, when it rose to 99° F. in the evening. It reached 100° F. on the following day, and remained at that level until the time of the meeting. On this account an X-ray examination of the chest was made on April 17. This revealed a large, sharply defined shadow to the left of the cardiac shadow; increased markings were noticeable at the base of the left lung, and there was some occlusion of both costo-phrenic angles. The heart was not displaced. It was considered that the appearances indicated a large encysted effusion situated posteriorly in the paravertebral sulcus.

The case was considered to be one of mediastinal effusion, and it was suggested that the correct treatment was aspiration and, if pus was found, drainage.

Major Gurner said that the X-ray appearances were typical of a posterior mediastinal effusion, a rare condition; but the clear outline suggested an encysted effusion in the left paravertebral sulcus.

Lieutenant-Colonel King suggested the insertion of a needle into the posterior aspect of the chest. He thought that if clear fluid was found nothing further should be done, but that if pus was discovered negative pressure drainage would be necessary.

#### Thrombosis of the Left Anterior Chorioidal Artery; Possible Aneurysm.

CAPTAIN A. J. M. SINCLAIR showed a male patient, aged twenty-four years, who had been stuporose and dysarthric at the time of his admission to hospital. On examination it was found that the right pupil was larger than the left. Right-sided facial weakness was present, and hemianopia to rough testing was noted on the right side. The tone of the right upper and lower limbs was increased; the upper limb was weak and the lower limb was paralysed. The superficial abdominal reflexes were absent on the right side. Plantar stimulation caused the right great toe to rise. The patient was unable to localize pin prick anywhere on the right side. No abnormality was detected on the left side.

At operation a diagnostic burr hole was made in the left temporo-parietal area; no hematoma was found, but the brain was oedematous.

Captain Sinclair said that the patient's mental state had considerably improved, and he had become capable of giving a reasonable amount of cooperation. He was only occasionally incontinent of urine, but obstinate constipation was present. He complained of severe headache and of severe pain in and above the right eye. The power in the paretic areas was steadily improving.

Further examinations were carried out. Homonymous hemianopia to confrontation tests was present on the right side, and the right pupil was larger than the left. Weakness of the masseter on the right side was detected. The right corneal reflex was absent. Response to cotton wool, pin prick, and heat and cold was diminished on the right side. Right facial paralysis of the upper neurone type and twelfth nerve paralysis with dysarthria were noted, and there was right hemiparesis, more pronounced in the proximal muscles. Flexor tone was increased in the right upper limb, and extensor tone in the right lower limb. The right deep tendon reflexes were increased, and Babinski's sign was elicited on the right side. The right superficial and cremasteric reflexes were absent. All over the right side, up to a point about one inch from the mid-line, there were varying degrees of impairment of sensation to cotton wool, pin prick, heat and cold, deep pain and two-point localization; joint sense was also impaired. The left side was normal in all respects. The cerebro-spinal fluid was under

a pressure of 130 millimetres; there was no block. The fluid contained one leucocyte and 45 erythrocytes per cubic millimetre and 45 milligrammes of protein per 100 cubic centimetres. The suggested diagnosis was thrombosis of the left anterior chorioidal artery, possibly with an aneurysm in that region.

Captain Sinclair showed diagrams of anatomical relationships of the anterior chorioidal artery, and suggested that the lesion was either a thrombosis of the left anterior chorioidal artery or a leaking cerebral aneurysm in that neighbourhood. There was no evidence to suggest a neoplasm.

MAJOR I. D. MILLER, who had operated on the patient, said that he had been admitted to hospital with no clinical history. Coma was increasing, and lateralizing signs were present. As there was a possibility of a traumatic cause for the condition, a diagnostic burr hole was made in the skull to exclude hematoma. Major Miller thought that lumbar puncture and estimation of the pressure of the cerebro-spinal fluid did not give sufficient information to exclude a cerebral hemorrhage or some other space-replacing lesion. In the presence of a subdural hematoma the pressure of the cerebro-spinal fluid might or might not be elevated.

#### Benign Tertian Malaria.

LIEUTENANT-COLONEL E. L. COOPER showed three patients suffering from benign tertian malaria. He said that a large number of patients with malaria were in the hospital at the time of the meeting. The patients in general had received "suppressive" quinine for a period of months and fell into two main categories. The first covered those patients who had taken "suppressive" quinine, who had ceased to take quinine and who had had no clinical attack of malaria before the attack for which they had been admitted to hospital. Some of these patients had had mild symptoms for some months, others were symptom-free; none of them had been unable to carry out their work. In some instances the onset of clinical malaria followed a minor injury; in others the presence of respiratory symptoms and signs suggested that an infection of the upper respiratory tract determined the onset of malaria.

Referring to the second category, Lieutenant-Colonel Cooper said that it included patients who had had treatment in Syria and Palestine for one or more clinical attacks of malaria, the illness determining their admission to the Ninth Australian General Hospital being therefore a recurrence. Some of these patients had had two or more full courses of treatment with quinine, "Atebrin" and "Plasmoquine", but had had relapses in spite of adequate treatment.

CAPTAIN C. M. DELAND said that his experience in New Guinea had been that quinidine given in the same dosage as quinine frequently effected a cure of benign tertian malaria when other treatment failed. He urged the pre-operative use of quinine for patients from malarious areas, and suggested the routine use of injections of liver extracts after treatment of malaria by "Atebrin" and "Plasmoquine". In New Guinea arsenic had been abandoned in favour of liver extract in the treatment of benign tertian malaria.

MAJOR H. JOHNSON gave the history of a medical officer suffering from benign tertian malaria, whose only symptom was a tendency to sleep on certain days. Once a fortnight for the preceding six months he had felt heavy and tired; he had no fever during these attacks of periodic sleepiness. He had been admitted to hospital after two definite rigors had occurred in forty-eight hours, and examination of a blood film revealed evidence that he was suffering from benign tertian malaria.

Colonel Southwood raised the question of the intramuscular use of quinine in place of its intravenous use.

Lieutenant-Colonel Cooper gave his reasons for using quinine intravenously. He said that if any preparation for intramuscular use was to be given, "Atebrin Soluble Mucinate" was the most suitable.

#### Chronic Jaundice.

CAPTAIN P. LESLIE showed a male patient, aged twenty-eight years, who had served in the Middle East from May, 1941. In August, 1941, he had had an attack of sandfly fever, which was followed by jaundice; the jaundice had persisted in varying degree ever since. On March 17, 1942, his jaundice was observed to be more conspicuous than before, and he was readmitted to hospital.

Examination disclosed yellowness of the skin and conjunctiva. Neither the liver nor the spleen was palpable, and no enlarged lymph glands were found. The patient had a large head; his size in hats was 7½. The urine did not contain bile pigment, and a corpuscular fragility test produced normal results. The hemoglobin value of the

blood was 89%, the colour index was 0.9, and the erythrocytes numbered 4,800,000 per cubic millimetre; the leucocytes numbered 5,720 per cubic millimetre, and the appearances in a film were within normal limits. The Casoni test produced no reaction.

X-ray examination of the biliary tract revealed no gallstones and no evidence of liver enlargement. The skull on radiological examination appeared larger than normal, and the sutures were slightly wider than usual. The bone was moderately thick. The *sella turcica* was greatly enlarged and there was some erosion of the posterior clinoid processes; the appearances suggested pituitary tumour.

Captain Leslie said that the case was similar in onset to the cases of jaundice that occurred in large numbers in the Middle East. There was some evidence that the jaundice might be due to hemolysis, but the blood picture did not confirm such a conclusion. A reticulocyte count would be made to exclude haemolytic jaundice. The more likely diagnosis was one of recurrent infective hepatitis with some degree of liver atrophy.

#### Chronic Amoebic Dysentery with Hepatitis.

MAJOR H. JOHNSON showed a male patient, aged forty-six years, who since 1918 had had intermittent attacks of abdominal colic after meals; the attacks occurred at intervals of about three months and were always followed by the passage of loose motions containing mucus; they were precipitated by exercise, by the taking of alcohol, and by the ingestion of salads and meat. In Palestine the patient suffered from intermittent attacks of diarrhoea, not sufficiently severe to make him unable to carry out his duties; but after an attack lasting for eight weeks he was sent to a convalescent depot, and he had not worked since on account of chronic diarrhoea and colic. A medical board had graded him as Class B, and he was admitted directly to hospital from the transport.

The patient had suffered from typhoid fever at the age of fifteen years, from mild attacks of diarrhoea in France during the period from 1917 to 1919, and from pneumonic influenza in 1918. On examination after his admission to hospital he was found to be thin and over-anxious. Muscular rigidity was present in the epigastrium, and the liver was palpable and tender. No abnormality was detected in the other systems. A barium meal examination revealed no evidence of peptic ulcer; but a pronounced degree of surging in a large loop indicated some degree of duodenal ileus. Pathological examination of the faeces disclosed no abnormality in the second specimen, but in the third a few examples of *Entamoeba histolytica* were seen. A course of injections of emetine hydrochloride was given, and at the time of the meeting the liver tenderness had disappeared. A sigmoidoscopic examination revealed that the bowel was spastic, but otherwise normal; the mucous membrane was clear. Major Johnson said that the patient had probably suffered from chronic amoebic dysentery for the past twenty-four years.

### Correspondence.

#### THE EYES OF THE WORKER.

SIR: In your leading article of May 30, 1942, you remark: "For such occupations as those of aeroplane pilot, navigating officer and railway engine driver, this [acuity of vision] has been determined, but there are many occupations in regard to which no such determination has been made." This is hardly correct, as railways have had for many years their varying standards, and in 1922 the Australian Railways drew up a fairly comprehensive list of vision standards ranging from the perfect vision for enginemen and porters through a series of lower standards for clerks, apprentices to workshops, adult artisans and tradesmen, permanent way employees down to casual labourers.

For apprentices the standard is right eye 6/9, left eye 6/9, and for adult artisans, right eye 6/12, left eye 6/12, both eyes 6/9. Though, of course, a large number of these have better vision than this, I think, considering the great amount of fine precision engineering work that is done now, that a visual acuity of at least 6/3 each eye, if not 6/5, should be obligatory on those employees in the exact work in tool rooms.

Unfortunately under the dilution scheme a large number of men of all ages were given a short course to fit them as

tradesmen, without any test of their visual acuity, and are now in the engineering workshops on munitions, with the result that there are some whose visual acuity is not suited to the job.

The trend of the article mentioned by Snell, Culler and Kuhn is to advocate visual acuity as a base for vocational guidance. I think that for young people, both male and female, visual acuity and vision defects can be used as a guide to steer them into occupations where they do the best for themselves and the State. With the conscription of all labour in existence at the present time there is a golden opportunity for the authorities to carry out coordinated work on these lines.

Yours, etc.,

E. COUPER BLACK, M.B., B.S.,  
Railways Medical Officer.

Adelaide,  
June 10, 1942.

#### BLOOD SERUM IN THE TREATMENT OF BURNS AND WOUNDS.

SIR: In THE MEDICAL JOURNAL OF AUSTRALIA of April 13 appeared a letter by me on the use of blood serum externally in the treatment of burns and wounds. Since then I have had many inquiries and suggestions from near and far.

It has been pointed out to me that blood serum is kept best at a temperature just above freezing point—in other words, it is unwise to let it freeze as I have done myself. I have also been notified that serum is prepared in bulk at all the capital cities of Australia and can be obtained easily by any practitioner who may have difficulty in preparing it himself under aseptic conditions.

Its efficacy as a dressing is attributed by some to its content of albumin and globulin, and by others to its content of antitoxins. However, I think we know rather less than more of the properties of blood serum.

Yours, etc.,

F. W. SIMPSON.

179, St. George's Terrace,  
Perth,  
May 31, 1942.

#### MEDICINE, WAR AND PEACE.

SIR: I read, with interest, the letter, appearing in the issue of May 30, headed "Medicine, War and Peace" by Dr. S. J. Cantor. I agree with Dr. Cantor that few sections of the community are in a better position to play an important part in post-war reconstruction than the members of the medical profession. By education, training and our daily work we are compelled to think for ourselves and to form decisions and give orders. The pre-university education of medical men is, in itself, much higher than that of the greater proportion of the population, but in the past few members of the profession have bestirred themselves sufficiently to make use of this knowledge and training to take any real or active part in the general life of the community. The doctor, with his ready access to all classes of the community, is *persona grata* to nearly all members of the community, and as he is the natural leader in matters of health, it is an easy matter for him to influence people in matters of general community welfare if his information, premisses and argument are correct and skilfully directed. Contact with everyday life in all its phases has made the general medical practitioner a socially minded individual, who is anxious to see the people of the world lead a healthier, happier and more contented life. It is therefore the duty of the profession, through its leaders, to formulate some scheme for the welfare of the people of this Commonwealth not only in health matters and medical services, but all allied subjects, such as housing, town planning, food distribution, clothing *et cetera*. It would be a service of which the profession is thoroughly capable to offer to the community instruction on these matters by Press, radio and personal contact.

Such a proposal would be within the province of the Federal Council, who could immediately appoint a sub-committee and coopt assistance from the general rank and file of the profession to assist in formulating such a scheme.

Yours, etc.,

KEITH J. B. DAVIS.

Tamworth,  
New South Wales,  
June 11, 1942.

## Obituary.

### WILLIAM JOHN YOUNG.

We are indebted to Professor W. A. Osborne for the following appreciation of the late Professor William John Young.

William John Young was born in Manchester, England, on January 26, 1878. The education of boyhood was received in the Hulme Grammar School of that city, and displaying an early aptitude towards science, he entered the famous Owens College, known now as the University of Manchester, and obtained the Master of Science degree, his chief subject being chemistry. Later he won the Doctor of Science degree of London University, which had the reputation of demanding the highest standard of examinational severity in the Empire. The Manchester school of chemistry is, of course, world famous for its tradition; few other institutions gave so thorough a training in technique, and a Manchester chemist carried his deftness in manipulation into other fields as well and retained his skill throughout life. I well remember asking Young where and when he had been taught cabinet making, for he turned out in his home some beautiful examples of joinery; he answered that he had never been taught at all; he simply applied to his hobby what he had learned in chemistry.

Young's successful career in science really dates from 1902, when he started research work in the Lister Institute in London as assistant biochemist, and ten fruitful years followed. In 1903 he married, and those many friends in London, Townsville and Melbourne who were privileged to enjoy Mrs. Young's acquaintance and hospitality know how happy the union was. I just remember meeting Young at some of the scientific gatherings in 1903. On one occasion I sat beside him, and when a researcher with a foreign name made some incongruous slips in diction I was aware by the twinkling of the eyes that he had a strong sense of humour. It was in this Lister Institute period that what has been well called the classic work of Harden and Young on the role of phosphorus in carbohydrate biochemistry opened up a new era in our concepts concerning cell metabolism. Hitherto it was nitrogen which was regarded as the one dynamic element in cytoplasm; but ideas were exceedingly vague about the mechanisms of transformation of sugar into alcohol and other products of fermentation. In the test tube sugar in solution, if shielded from invasion of yeasts, is stable and is refractory to oxidizing agents, but in the yeast cell disintegration is rapid. The great discovery was that when sugar is united to oxidized phosphorus it becomes labile and vulnerable. The stimulating effect of this discovery was immediate, and attention was paid to phosphorus, or, shall we say, phosphoric acid, as the possible key to a number of biochemical problems. We now know that what gives rise to the contraction of a muscle fibre is an explosion of an organic phosphate and that the detonator which sets it going is another organic phosphate, whilst at the end of the energy chain is sugar or glycogen, which is oxidized as a phosphate. The presence in the nucleus of every cell of nucleoproteins with many phosphoric acid linkages took on a new significance.

When the Australian Institute of Tropical Medicine was founded in Townsville it was realized that a unique opportunity was afforded for research of great national importance. Townsville is in a truly tropical region, but is a pure white community without coolies or a native population which could act as a reservoir of disease; furthermore, the Australian tropics alone in the world possess no endemic tropical diseases beyond a little dengue and sprue. Nowhere else in the world could the problem be investigated of the action of tropical climates on the white races uncomplicated by tropical diseases. The selection committee in London under the chairmanship of Dr. (later Sir Charles) Martin, Director of the Lister Institute, chose Anton Breinl as pathologist and W. J. Young as biochemist. The choice was wise and the association happy, and soon researches of importance began to flow from Townsville. A word may be put in here for the part Mrs. Young took in this translation from London to a small town in tropic Australia. Most

women would have viewed with alarm or despair the discomforts of the tropics unrelieved by abundant cheap domestic labour, which in India and Africa makes a white woman's life tolerable if not pleasant; but no word of repining was heard from Mrs. Young; with her young daughter Sylvia she settled down with zest to life in this north Queensland town, and a singularly happy home and a wide circle of friends were the result.

Intimate association with Breinl, who was a good clinician as well as pathologist, taught much to Young in the way of the clinical approach to human reactions, and many medical practitioners who subsequently sought his advice never realized that he had not been through a medical training. It was in the summer of 1918-1919 that I first came into intimate contact with Young as a colleague and collaborator in the Townsville Institute. For reasons which I leave to others to expound I could foresee that the Breinl-Young team would, through external pressure, find it difficult to continue in its successful career. On parting with Young I asked him would he come to Melbourne University if I managed to get a lectureship for him in biochemistry, and I there and then received the

greatest compliment in my life, for he said quietly: "Yes, if it is under you." On returning to Melbourne I worked hard to get Young as biochemist at the university. The salary, higher than that of other lecturers, which I recommended was accepted by the then treasurer of the university, Dr. J. P. Wilson, who carried caution in expenditure to an ultra-Caledonian level. Dr. Wilson had somehow gained the impression that Dr. Young was a medical doctor and I never disillusioned him. I trust the recording angel will let me off lightly for this small deceit. And so W. J. Young came to the Melbourne University as lecturer and later as professor of biochemistry, directing the teaching of this subject in the faculties of medicine, agriculture, science, dentistry and veterinary science. I regard this as the greatest service I have rendered to the Melbourne University. Then began in 1920 a friendship the memory of which I shall always treasure; never was it ruffled by a word spoken in anger or sarcasm; never was the voice raised or suppressed into sulky silence. For this happy relation Young was, of course, responsible. I cannot imagine anyone ever having a quarrel with him. Only once did I see a trace of anger in his face. An attendant carrying his model of the glucose molecule dropped this on the floor and the atoms





rolled about. They were hastily collected and stuck on anyhow, and so Young addressed his audience on the beauty of the glucose molecule illustrated by a model which had the most startling originalities in valency.

As is well known, Young's researches could take on a very practical character as well as contributing to high theory. His investigations on the ripening of bananas and the storage of fruit are examples. He had the gift of inspiring pupils, and his laboratory, sadly cramped as it always was, set many young men and women on a career of science. I will conclude with mentioning two attributes which he possessed in a high degree. He was splendidly loyal to any society of which he was a member, never absenting himself and never shirking onerous office. No matter how inclement the weather or how unattractive the agenda, Young could be relied upon to be present. The other was his true culture. His reading in English literature was wide; drama made a special appeal to him, especially Elizabethan and that in the sixteenth and seventeenth centuries.

Many hundreds of medical practitioners trained in Melbourne will hold his memory dear, for it was from him that they learned the fundamentals of biochemistry, taught by a master of theory and technique. Some further years of university work and then a well-earned retirement we all supposed would be his lot; but the fates ordained otherwise, for, like a bolt from the blue, perforated gastric ulcer occurred, demanding immediate surgical treatment; complications set in, and so on the morning of Thursday, May 14, he passed away.

#### HILTON CHARLES GARNETT SMITH.

We regret to announce the death of Dr. Hilton Charles Garnett Smith, which occurred on June 15, 1942, at Wentworth Falls, New South Wales.

#### JOHN EDMUND FOLEY.

We regret to announce the death of Dr. John Edmund Foley, which occurred on June 17, 1942, at Manly, New South Wales.

### Post-Graduate Work.

#### LECTURES IN SYDNEY.

THE New South Wales Post-Graduate Committee in Medicine announces that a series of winter lectures will be held at 4.30 p.m. on Monday afternoons at the Stawell Hall, Royal Australasian College of Physicians, 145, Macquarie Street, Sydney.

The first three lectures will be as follows:

1. Monday, June 29, 1942, 4.30 to 6 p.m.—Demonstration of films, including several films on operative technique on loan to the committee from the Mayo Clinic, and a film on the "Mosquito in Malaria".
2. Monday, July 6, 1942, 4.30 to 6 p.m.—"Experiences in Military Surgery", by Major R. V. Graham.
3. Monday, July 13, 1942, 4.30 to 6 p.m.—Library seminar: "The Sulphonamides", by Dr. H. R. G. Poate and Dr. S. A. Smith.

There will be no charge for these lectures, which are open to all members of the medical profession. Medical officers of the United States and Allied forces are invited.

Applications for post-graduate instruction in any subject should be made to the Secretary of the Post-Graduate Committee in Medicine, 145, Macquarie Street, Sydney.

### Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

- Hughes, David Alfred, M.B., B.S., 1939 (Univ. Sydney), 135, Macquarie Street, Sydney.  
White, James McBride, M.B., B.S., 1941 (Univ. Sydney), Shire Office, Cowra (A.I.F.).

THE undermentioned have applied for election as members of the South Australian Branch of the British Medical Association:

- Holmes, Henry Bertram, M.B., B.S., 1940 (Univ. Adelaide), Royal Australian Navy.  
Hunter, Geoffrey Allan, M.B., B.S., 1942 (Univ. Adelaide), Royal Adelaide Hospital.

THE undermentioned have been elected members of the South Australian Branch of the British Medical Association:

- Hedde, Robert Charles, M.B., B.S., 1942 (Univ. Adelaide), 32, Thornber Street, Unley Park.  
Verco, Peter Willis, M.B., B.S., 1942 (Univ. Adelaide), 7, Fitzroy Terrace, Prospect.

### Diary for the Month.

- JULY 1.—Western Australian Branch, B.M.A.: Council.  
JULY 2.—South Australian Branch, B.M.A.: Council.  
JULY 3.—Queensland Branch, B.M.A.: Branch.  
JULY 7.—New South Wales Branch, B.M.A.: Council Quarterly.  
JULY 10.—Queensland Branch, B.M.A.: Council.  
JULY 14.—New South Wales Branch, B.M.A.: Executive and Finance Committee, Organization and Science Committee.

### Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phoenix Mutual Provident Society.

**Victorian Branch** (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 235, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

**Western Australian Branch** (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

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